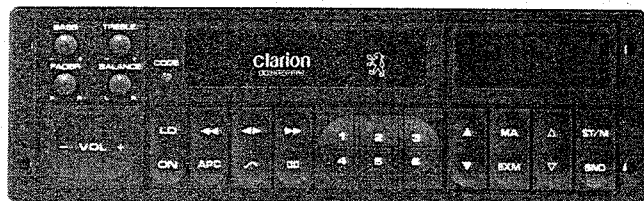


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Service Manual

Published by Service Administration Section



PU-9357A-A



PU-9359A-A

PEUGEOT UKW•MPX/MW/LW RADIO CASSETTE COMBINATION

Model **PU-9357A-A**
PU-9359A-A

■ SPECIFICATIONS:

Radio section


| | |
|-------------------------|---|
| Circuit system: | Superheterodyne |
| Tuning system: | Electronic tuning |
| Receiving frequency: | MW 531 to 1602kHz LW 153 to 281kHz UKW 87.5 to 108MHz |
| Intermediate frequency: | MW, LW 459kHz UKW 10.7MHz |
| Quieting sensitivity: | MW Less than 33dB (at 20dB S/N) LW Less than 40dB (at 20dB S/N) UKW Less than 12dB (at 30dB S/N) |
| Separation: | UKW More than 20dB |
| Auto. stop sensitivity: | MW DX 20 to 40dB LO 40 to 60dB LW DX 27 to 47dB LO 47 to 69dB UKW DX 17 to 33dB LO 35 to 55dB |

| | | |
|------------|--------|-----------------------------------|
| S/N ratio: | Normal | More than 45dB/53dB (Dolby-on) |
| | Metal | More than 47dB/55dB (Dolby-on) |

| | |
|----------------|------------------------------|
| Wow & flutter: | Less than 0.15% (W.R.M.S) |
| FF/REW time: | Less than 100sec. (C-60) |

Composite

| | |
|-----------------------|---|
| Load impedance: | 4Ω×4 |
| Power output: | 8W×4 (at 10% dist.) More than 12W×4 (at max. output) |
| Power supply voltage: | DC. 14.0V Negative ground |
| Power consumption: | Less than 7A (at max. output) Less than 3mA (at BACK UP) |
| Dimensions: | Width 178mm Height 50mm Depth 160mm |

• Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
• "Dolby" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

Tape section

| | |
|----------------------|--|
| Reproduction system: | Auto reversing 4 track, 2 channel stereo cassette tape playback (Monaural also capable) |
| Tape speed: | 4.76cm/sec. (1-7/8 ips) |
| Crosstalk: | More than 40dB |
| Separation: | More than 30dB |

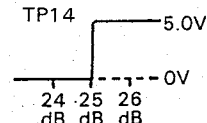
■ COMPONENTS:

| | | |
|------------------|-------------|---|
| Main unit | | 1 |
| Mounting bracket | 300-7516-00 | 1 |
| Removable tool | 341-1387-00 | 2 |

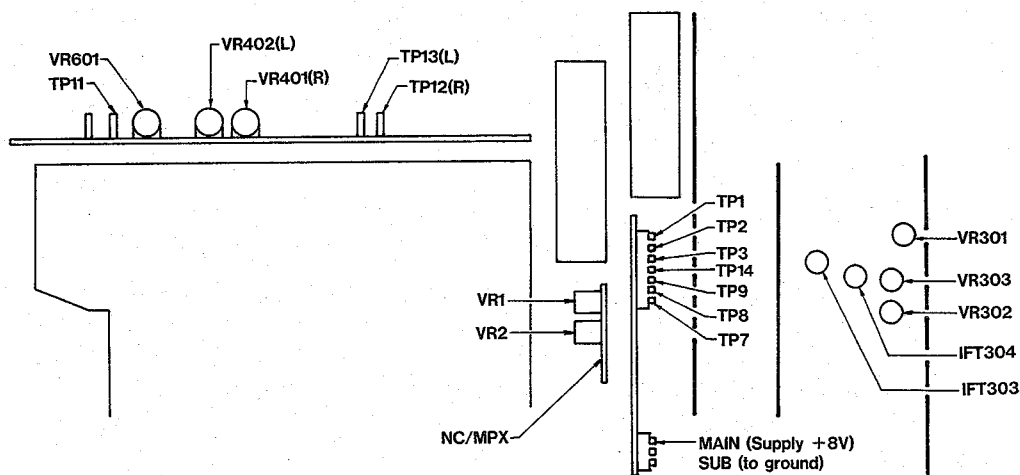
PU-9357,9359

■ADJUSTMENT:

| Adjustment item | Adjustment point | Procedure |
|-----------------|------------------|---|
| Gain (MAIN) | VR301 | 1. Connect the digital voltmeter to TP3. 2. Input the 98.1MHz frequency at 15dB (MOD./f=22.5kHz) and adjust the level to $1.6^{+0.1}_{-0.3}$ V by VR301. |
| OV (MAIN) | IFT303 | 1. Connect the digital voltmeter to TP1 and TP2. 2. Input the 98.1MHz/25dB signal (MOD./f=22.5kHz) and adjust the reading of digital voltmeter to $0.000V \pm 30mV$ by IFT303. |
| SD | VR303 | 1. Input the 98.1MHz/25dB signal. 2. Adjust VR303 so that the voltage of TP14 is in the range 0V to 5V. |
| Gain (SUB) | VR302 | 1. Connect the digital voltmeter to TP9. 2. Adjust the level by VR302 similar to MAIN. |
| OV (SUB) | IFT304 | 1. Connect the digital voltmeter to TP7 and TP8. 2. Follow the same adjustment steps as MAIN above. (IFT304) |
| SASC | VR304 | 1. Input the 98.1MHz/65dB, 7kHz modulation frequency, 30% modulation degree SSG signal. 2. Adjust the output level of the volume controller to 0dBm (0.775V) 3. Set the SSG output to 35dB and adjust VR304 so that the output level is -2dB. |
| Separation | VR1 (NC/MPX) | 1. Input the 98.1MHz, connect the output of a stereo modulator to the external modulation terminal, and input a 65dB SSG signal. 2. Set the stereo modulator to the L or R ch and adjust VR1 so that the maximum separation is obtained. |
| Pilot canceller | VR2 (NC/MPX) | 1. Input the 98.1MHz/65dB, modulation (PL 10%). 2. Adjust VR2 so that output of the set is minimum. |
| DK VCO | VR601 | 1. Input the 98.1MHz/65dB non-modulated SSG signal, and turn on VF. SW. 2. Connect the frequency counter to TP11 through a 22kΩ resistor and adjust VR601 so that the counter indicates 125Hz. In the case, 25sec. later, seeking occurs. |
| Dolby NR | VR401 and VR402 | Insert a Dolby level test tape (400Hz-200nWb/m), connect the milli-volt meter to TP12 and TP13 and adjust VR401 and VR402 to obtain an output of $300mV \pm 1dB$. (Dolby SW : OFF) |



●ADJUSTMENT POINT



<TAPE MECHANISM>

1. Head-azimuth Adjustment

Make playback for the azimuth-tape (8kHz, -10VU), and turn each azimuth-adjusting screw to make each FWD & REV maximum. After adjustment, make adhesion with bond.

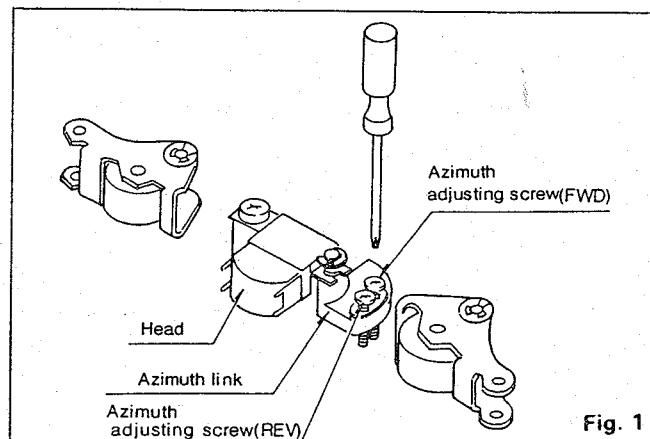


Fig. 1

2. Adjustment of Adsorption Plunger B

Under FF-operation, when adsorption plunger is released, mount the plunger to make the adsorption-surface of adsorption plunger B in parallel to the bent surface of plunger link B, and make adhesion of the rear side of the screw with bond.

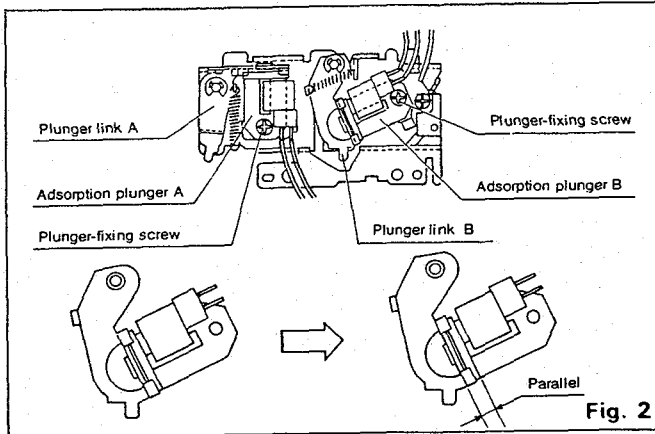


Fig. 2

3. Adjustment of Adsorption Plunger A

Under REW-operation, when adsorption plunger is released, mount the plunger to make the adsorption-surface of adsorption plunger A in parallel to the bent surface of plunger link A, and make adhesion of the rear side of the screw with bond.

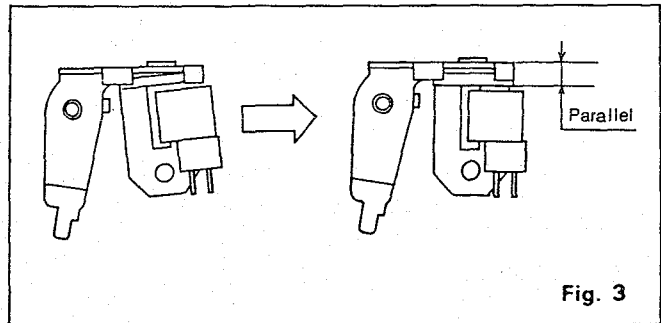


Fig. 3

EXPLANATION OF IC's:

Refer to description in IC service manual vol 1.

| | | | |
|----------------|-------------|-----------------------|-----|
| TC4066BP | 051-0267-00 | Quad Bilateral Switch | P39 |
| μ PD4066BG | 051-0267-55 | Quad Bilateral Switch | P39 |
| LA3365 | 051-0501-00 | FM MPX Demodulator | P15 |

Refer to description in IC service manual vol 2.

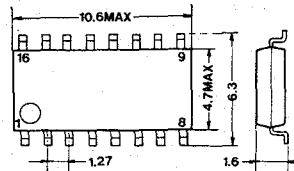
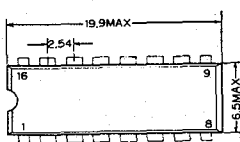
| | | | |
|---------------|-------------|-------------------------------|-----|
| NJM4558M | 051-0350-55 | Dual OP Amp | P39 |
| AN6263N | 051-0561-01 | Music Interval Detection IC | P42 |
| TMP42C70N8005 | 051-0740-01 | Cassette Mechanism Controller | P83 |
| TA7411AP | 051-0798-21 | FM IF System | P8 |
| LA2220 | 051-0739-00 | ARI System SK TYPE | P11 |

TD62104P 051-0390-00
TD62104F 051-0390-05 Transistor Array

Outward Form

051-0390-00

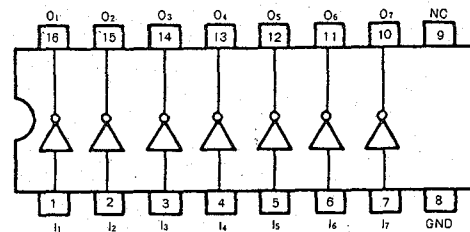
051-0390-05



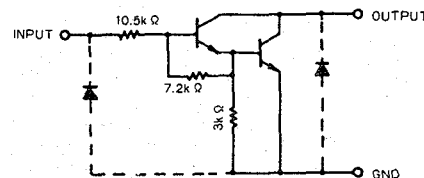
Maximum Ratings ($T_a=25^\circ\text{C}$)

| Item | Symbol | Rating | Unit |
|------------------------|---------------------|----------------------------|------|
| Output voltage | V_{OER} | -0.5~50 | V |
| C-E Sustaining voltage | $V_{\text{CES(S)}}$ | 25 | V |
| Collector current | I_c | 0390-00 500 0390-05 350 | mA |
| Input voltage | V_{IN} | -0.5~30 | V |
| GND terminal current | I_{GND} | 2.3 | A |
| Power dissipation | P_D | 0390-00 1.0 0390-05 0.6 | W |

Terminal Connection (TOP VIEW)

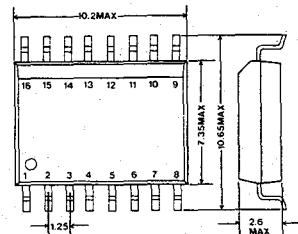


Equivalent Circuit (Unit)



μ PC1266G 051-0541-00 Diver Control SW.

Outward Form

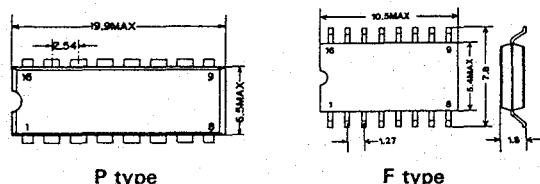


Absolute Maximum Ratings

| Item | Symbol | Condition | Rating | Unit |
|-------------------|--------------------|-------------------------------|--------|------|
| Supply voltage | V_{CC} | | 16 | V |
| LED drive voltage | $V_{\text{IO,11}}$ | 10pin, 11pin Terminal voltage | 16 | V |
| LED drive current | $I_{\text{IO,11}}$ | | 40 | mA |
| Power dissipation | P_D | | 250 | mW |

| Pin | Function |
|-----|------------------------|
| 9 | Vcc |
| 10 | MAIN LED Drive |
| 11 | SUB LED Drive |
| 12 | |
| 13 | Sens 1 |
| 14 | Sens 2 |
| 15 | S meter DC Input (S-1) |
| 16 | S meter AC input (S-1) |
| 8 | GND |
| 7 | Post Amp Output |
| 6 | Post Amp Output |
| 5 | CH. 2 |
| 4 | CH. 1 SEL. SW |
| 3 | SASC SEL. SW |
| 2 | S meter DC Input (S-2) |
| 1 | S meter AC input (S-2) |

Outward Form

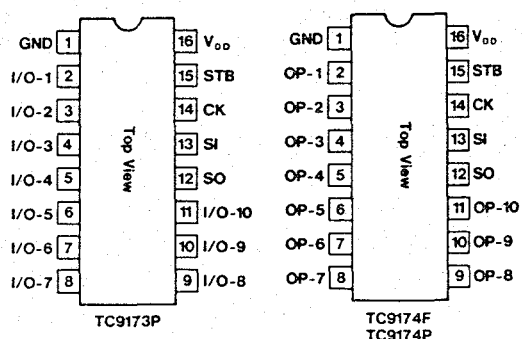


TC9173P and TC9174F.P are I/O port extension interface IC's of a digital tuning system controller LSI.

- TC9173P is for I/O extension, and TC9174F.P is for output only extension.
- Both types have 10 port terminals. TC9173P enables I/O setting bit by bit.
- TC9174F.P can take in output data from an SQ terminal to the controller.
- The ports are all controlled by 4 serial path lines on the controller side.

| Item | Symbol | Rating | Unit |
|-------------------|------------------|------------------------------|------|
| Supply voltage | V _{DD} | -0.3 ~ 7.0 | V |
| Input voltage | V _{IN} | -0.3 ~ V _{DD} + 0.3 | V |
| Power dissipation | P _D | F type : 300 | mA |
| | | P type : 600 | |
| Output voltage | V _{OUT} | 20 (*) | V |

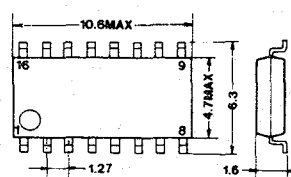
Terminal Connection



| Pin No. | Symbol | Terminal name | Function/Operation | Remarks |
|---------|-----------------|--|--|---------|
| 2 | I/O-1 OP-1 | TC9173P: General purpose I/O ports No. 1 ~ 10 | TC9173P: General Purpose I/O Ports I/O setting on a bit-by-bit basis is enabled by a program. <ul style="list-style-type: none"> CMOS input upon input Nch open drain output upon output (large current drive, sink current 10 mA MIN.) | |
| 3 | I/O-2 OP-2 | | | |
| 4 | I/O-3 OP-3 | | | |
| 5 | I/O-4 OP-4 | | | |
| 6 | I/O-5 OP-5 | | | |
| 7 | I/O-6 OP-6 | TC9174F, P: Enclosed in parentheses are symbol names. General purpose output ports No. 1 ~ 10 | TC9174F, P: General purpose output ports Nch open drain output for high-voltage resisting, large-current drive Sink current 10 mA MIN. Voltage resistance 18V MIN. | |
| 8 | I/O-7 OP-7 | | | |
| 9 | I/O-8 OP-8 | | | |
| 10 | I/O-9 OP-9 | | | |
| 11 | I/O-10 OP-10 | | | |
| 12 | SO | Serial output | Data output ports for serial I/O ports, and Pch open drain output. | |
| 13 | SI | Serial input | Data input ports for serial I/O ports, and schmitt input. | |
| 14 | CK | Clock signal input | Clock signal input ports for serial I/O ports, schmitt input. | |
| 15 | STB | Strobe signal input | Strobe signal input ports for serial I/O ports, end schmitt input. | |
| 16 | VDD | Power supply | 5 V ± 10% is applied. | |
| 1 | GND | | | |

The ports are all controlled by 4 serial path lines (SI, SO, CK and STB) by the controller.

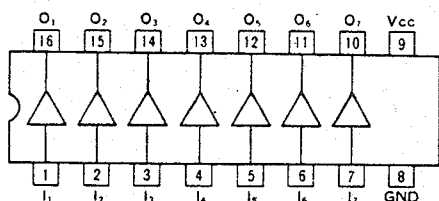
Outward Form



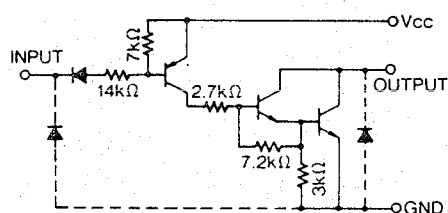
Absolute Maximum Ratings

| Item | Symbol | Rating | Unit |
|------------------------|--------|--------|------|
| Power voltage | VCC | 7.0 | V |
| C-E Sustaining voltage | V | 35 | V |
| Output current | LOUT | 350 | mA |
| Input voltage | VIN | 7.0 | V |
| Input current | IIN | -10 | mA |
| GND terminal current | IGND | 2.3 | A |
| Power dissipation | PD | 0.625 | W |

Block Diagram



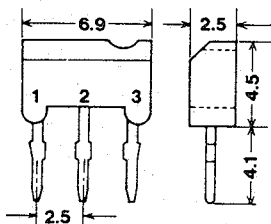
Circuit Diagram



| | |
|----------|-------------|
| MN1280-G | 051-0840-06 |
| MN1280-L | 051-0840-10 |
| MN1280-M | 051-0840-11 |
| MN1280-N | 051-0840-12 |
| MN1280-P | 051-0840-13 |
| MN1280-Q | 051-0840-14 |
| MN1280-R | 051-0840-15 |
| MN1280-S | 051-0840-16 |
| MN1280-T | 051-0840-17 |
| MN1280-U | 051-0840-18 |

IC for voltage detection

Outward Form



General

MN1280 is an element which is provided with functions to generate reset signals for initialization at turning on of power supply of microcomputers and other LSI systems and for prevention of system over-run at variations in power supply.

Features

- At power turning-on, generates reset signals until the voltage reaches to a set voltage.
- At power shut-off, generates reset signals when voltage drops below a set voltage.
- Generates the reset signals at supply voltage drop and release reset signals when the supply voltage returns to the normal level.
- Capable to detect life of cells.
- The detected voltage values are provided with hysteresis characteristics. (ΔV_0).
 $V_{DH} - V_{DL} = 100 \sim 300\text{mV}$
 $(V_{DH}$: Detected voltage at high voltage, V_{DL} : Detected voltage at low voltage)

Absolute Maximum Ratings (Vss=0V, Ta=25°C)

| | | |
|----------------|-----------------|-------------------------------|
| Power voltage | V _{DD} | 7.0V |
| Output voltage | V _O | -0.3 ~ V _{DD} + 0.3V |

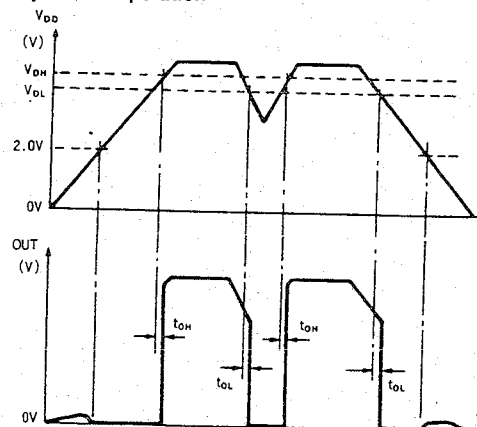
Terminal Connection

| Terminal No. | Symbol | Terminal Name |
|--------------|-----------------|--|
| 1 | OUT | Reset signal output terminal. (Generates low level at reset and high level at reset release.) |
| 2 | V _{DD} | Supply voltage terminal. |
| 3 | V _{SS} | Grounding terminal. |

Detected Voltage

| Rank | Item | Detected voltage when supply voltage is low VDL | | Unit |
|------|----------|---|-----|------|
| | | min | max | |
| | MN1280-G | 2.4 | 2.6 | V |
| | MN1280-L | 3.0 | 3.3 | V |
| | MN1280-M | 3.2 | 3.5 | V |
| | MN1280-N | 3.4 | 3.7 | V |
| | MN1280-P | 3.6 | 3.9 | V |
| | MN1280-Q | 3.8 | 4.1 | V |
| | MN1280-R | 4.0 | 4.3 | V |
| | MN1280-S | 4.2 | 4.5 | V |
| | MN1280-T | 4.4 | 4.7 | V |
| | MN1280-U | 4.6 | 4.9 | V |

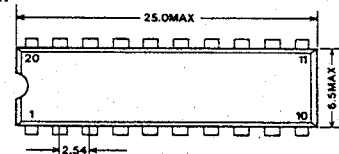
Description of Operation



- Note 1) As operation is not guaranteed at supply voltage of 2V or less, no output can be defined.
- 2) V_{DL}: Detected voltage when supply voltage is low.
V_{DH}: Detected voltage when supply voltage is high.
t_{OH}: Time from rise of supply voltage to V_{DH} until the output reaches High level.
t_{OL}: Time from drop of supply voltage to V_{DL} until the output reaches Low level.

TA7764P 051-0888-00 Dual Channel Volume/Tone Control

Outward Form



Description

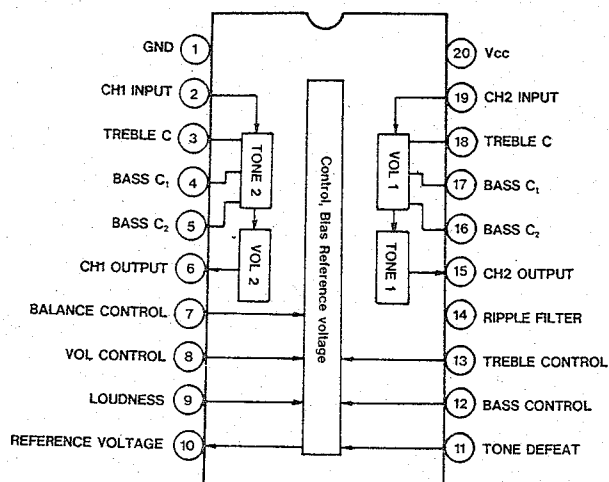
This IC is an electronic volume system to make one touch operation for switch and volume necessary for digital control of volume, balance, bass, treble, and loudness.

Features

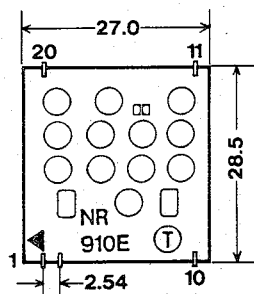
The selection and control of each volume can be optionally performed by the input of the specified serial data from the outside.

- Volume 0 ~ -80dB
- Tone Bass ($\pm 15\text{dB}$ f=50Hz~1kHz)
Treble ($\pm 15\text{dB}$ f=1~15kHz)

Block Diagram



Outward Form



TOP VIEW

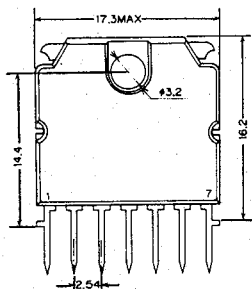
Maximum Rating

| | | |
|------------------------|---------------------|-------|
| Maximum supply voltage | V _{cc} max | 16V |
| Power dissipation | P _d max | 800mW |

Terminal Connections

| | | | | |
|-------|--------|-----|----|----------------------------|
| CH1 { | NR IN | (1 | 20 | M/N |
| | EQ OUT | (2 | 19 | NC |
| | COMMON | 3 | 18 | NR REF |
| CH1 { | R | (4 | 17 | GND |
| | F | (5 | 16 | CH1 } NR OUT |
| | F | (6 | 15 | CH2 } |
| CH2 { | R | (7 | 14 | NC |
| | GND | (8 | 13 | V _{cc} |
| CH2 { | EQ OUT | (9 | 12 | NR ON/OFF(H : OFF, L : ON) |
| | NR IN | (10 | 11 | FWD/REV(H : FWD, L : REV) |

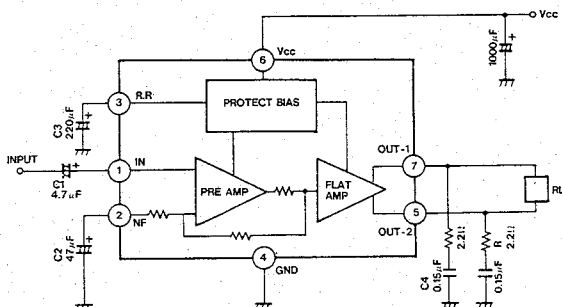
Outward Form



Maximum Ratings (Ta=25°C)

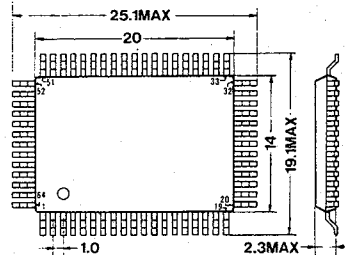
| Item | Symbol | Rating | Unit |
|------------------------------|-----------------------|--------|------|
| Peak Supply Voltage (0.2sec) | V _{cc} surge | 50 | V |
| DC Supply Voltage | V _{cc} dc | 25 | V |
| Operating Supply Voltage | V _{cc} opr | 18 | V |
| Output Current (peak) | I _o peak | 4.5 | A |
| Power Dissipation | P _o | 15 | W |

Block Diagram and Test Circuit



PU-9357,9359

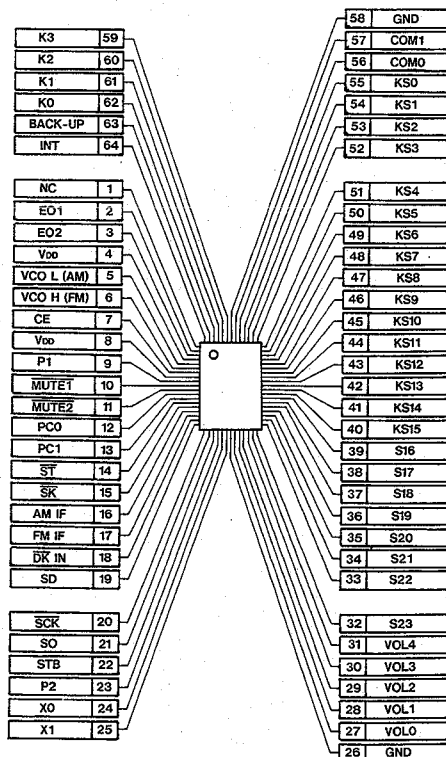
I Outward Form



II Outline

μPD1719G-584-12 is a 4-bit CMOS microprocessor for digital tuning, developed for UKW/MW/LW car radio used in Europe. It incorporates a prescaler operable up to 200MHz, a PLL frequency synthesizer and an LCD driver (1/2 duty, 1/2 bias) into one chip.
 ○EUROPE BAND or USA BAND is selectable.
 ○Electronic Volume Control Function (A pulse switch and a seesaw switch can be commonly used). (The initial value of the volume can be changed by ±3 steps.)
 ○VF Function.

III Terminal Connection



IV Terminal Description

| No. | Symbol | Terminal Name | Function |
|-----|-----------------|---------------|--|
| 1 | N.C | — | Not in use. |
| 2 | EO1 | Error Out | Error output terminals for PLL. If the local oscillation frequency (VCO output) is divided and the resulting value is higher than the reference frequency, H is output from these terminals. If the two frequencies are the same, the floating condition occurs. Because the same waveform is output from EO1 and EO2, you can select which terminal to use. |
| 3 | EO2 | | |
| 4 | V _{cc} | Power Input | Power input terminal. Provides an operation voltage of 5V ± 10%. Power can be provided either to pin 4 and pin 8. |
| 5 | VCOL (AM) | AM VCO Input | Input terminal from AM station. |
| 6 | VCOH (FM) | FM VCO Input | Input terminal from FM station. |
| 7 | CE | Chip Enable | Input terminal for mode select signal. When the CE terminal is switched to Low level, the backup mode is switched on, and backup at low power consumption is available (max. 10μA). |
| 9 | P1 | Power ON 1 | When the POWER ON Key is pressed, High level is output from this port. |

| No. | Symbol | Terminal Name | Function | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---------|------------------------------|--|-------|---------|-------|---------------|-------|-------|-------|--|----|---|---|---|---|---|---|-----|----|---|---|---|---|---|---|--|----|---|---|---|---|---|---|--|----|---|---|---|---|---|---|--|----|---|---|---|---|---|---|---------------|----|---|---|---|---|---|---|--|----|---|---|---|---|---|---|--|----|---|---|---|---|---|---|--|----|---|---|---|---|---|---|-----|
| 10 | MUTE1 | Mute signal Output | During tuning operation in RADIO mode, a muting signal is output. (Active Low) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | MUTE2 | Volume mute | Low is output only when all the outputs of VOL0 to VOL4 become High. (Active Low) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | PC0 | Pulse SW | Key input in pulse switching. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | PC1 | Key Input | Pull down when not in use. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | ST | ST signal Input | ST station detecting port. Pull up by connecting to MPX IC ST indicator terminal. (Active Low) This is valid only at UKW. (The indicator goes off when outputting MUTE.) ST is displayed on LCD on detecting ST signal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | SK | SK signal Input | SK station detecting port. Pull up by connecting to SK terminal. (Active Low) This is valid at UKW and SK is displayed on LCD on detecting SK=Low. (The indicator goes off when outputting MUTE signal.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | AM IF | AM IF Input | AM IF input terminal (459kHz). This is valid only at AM. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | FM IF | FM IF Input | FM IF input terminal (10.7MHz). This is valid only at FM. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | DK IN | DK signal Input | DK signal input port. Pull up by connecting to DK terminal on SDK circuit. (Active Low) This is valid except for LW and MW. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | SD | SD signal Input | Station detecting port in execution of AUTO TUNING and execution stops with SD=IF COUNT=1. In VF mode, it stops with SD=IF COUNT=SK=1. Pull up by connecting to each SD terminal of UKW and MW/LW. (Active High) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | SCK | Clock signal Output | Clock signal output terminal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | SO | Serial data signal Output | Serial data signal output terminal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | STB | Strobe signal Output | Strobe signal output terminal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | P2 | Power ON (II) | When the POWER ON Key is pressed, High with 0.5 sec. delay than POWER ON (I) is output and MUTE signal is turned OFF after 1.5 sec. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | XO | X'tal | Connection terminals for the quartz oscillator. Connect 4.5MHz quartz. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | XI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | GND | Ground | Ground. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | VOL0 | VR control signal Output | Electronic volume control signal output terminals. The signal consists of 5 bits; VOL0 to VOL4, and 32-position volume step is formed. When VOL becomes MIN state, (AF MUTE) PB3 also becomes Low level. <table><tr><th>STEP</th><th>VOL OUT</th><th>VOL 0</th><th>VOL 1</th><th>VOL 2</th><th>VOL 3</th><th>VOL 4</th><th></th></tr><tr><td>31</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>MIN</td></tr><tr><td>30</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td></td></tr><tr><td>29</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>1</td><td></td></tr><tr><td>28</td><td>1</td><td>1</td><td>1</td><td>0</td><td>1</td><td>1</td><td></td></tr><tr><td>27</td><td>1</td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td><td>Initial value</td></tr><tr><td>26</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td></td></tr><tr><td>25</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td></td></tr><tr><td>24</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td></td></tr><tr><td>23</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>MAX</td></tr></table> | STEP | VOL OUT | VOL 0 | VOL 1 | VOL 2 | VOL 3 | VOL 4 | | 31 | 1 | 1 | 1 | 1 | 1 | 1 | MIN | 30 | 1 | 1 | 1 | 1 | 1 | 0 | | 29 | 1 | 1 | 1 | 1 | 0 | 1 | | 28 | 1 | 1 | 1 | 0 | 1 | 1 | | 27 | 1 | 1 | 0 | 1 | 0 | 0 | Initial value | 26 | 1 | 1 | 0 | 0 | 1 | 1 | | 25 | 1 | 0 | 0 | 0 | 0 | 1 | | 24 | 1 | 0 | 0 | 0 | 0 | 0 | | 23 | 0 | 0 | 0 | 0 | 0 | 0 | MAX |
| STEP | VOL OUT | | | VOL 0 | VOL 1 | VOL 2 | VOL 3 | VOL 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | 1 | | | 1 | 1 | 1 | 1 | 1 | MIN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 1 | | | 1 | 1 | 1 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | 1 | | | 1 | 1 | 1 | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | 1 | 1 | 1 | 0 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | 1 | 1 | 0 | 1 | 0 | 0 | Initial value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | 1 | 1 | 0 | 0 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 1 | 0 | 0 | 0 | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 1 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 0 | 0 | 0 | 0 | 0 | 0 | MAX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | VOL4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | S23 | Segment signal Output of LCD | Segment signal output terminals to LCD. The display uses the matrix of COM0 and COM1 (Pins #56 and #57). | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | S16 | Key source Output | The terminals S10/KS10 through S1/KS1 are also used as a key return signal source of key matrix. The display data and the key source signal are output by time-sharing method. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | S/KS15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | S/KS0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56 | COM0 | Common signal Output of LCD | Common signal output terminals to LCD panel. The display uses the matrix with S0 to S23. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 57 | COM1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 59 | K3 | Key return signal source | 4-bit key matrix input terminals. LCD segment terminals (S10/KS10~S0/KS0) are used as key return signal source. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 62 | K0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 63 | BACK-UP | Back up confirmation input | When the voltage on this terminal becomes 3.5V or less, the operation of internal clock generator and CPU is stopped and becomes memory back-up state with low power consumption. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 64 | INT | | Interrupt request signal input terminal. The interrupt request is output at the rising edge of the signal applied to this terminal. When Volume Key is connected to this terminal and the volume key is input to this, interrupt request is output. This is to process volume key corresponding to pulse switching in real-time basis. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

V Key Matrix

§ 1. Key Matrix Connection Table

| Output | Input | K3 (Pin 59) | K2 (Pin 60) | K1 (Pin 61) | K0 (Pin 62) |
|---------------|-----------|--------------|-------------|-------------|-------------|
| KS0 (Pin 55) | LOUD | | M3 | M2 | M1 |
| KS1 (Pin 54) | ⏏ | M6 | M5 | M4 | |
| KS2 (Pin 53) | APC | POWER ON/OFF | VOL UP | VOL DOWN | |
| KS3 (Pin 52) | SEEK UP | MA (SAM) | M UP | VF/ST-ON | |
| KS4 (Pin 51) | SEEK DOWN | EXM (PSS) | M DOWN | BAND | |
| KS8 (Pin 47) | MTL | REV | FOR | R/T | |
| KS9 (Pin 46) | | VF/ST-ON SEL | | | |
| KS10 (Pin 45) | | BAND | | | |

| | |
|--|---------------|
| | Momentary SW |
| | Diode SW |
| | Transistor SW |

§ 2. Diode SW

| Symbol | Function | | | | | | |
|---------------|--|--|--------------|--------|---|-------|---|
| VF/ST-ON SEL. | A switch to determine whether VF is enabled or switching of ST/MONO can be done by SW. <table> <tr> <th></th><th>VF/ST-ON SEL</th></tr> <tr> <td>VF</td><td>0</td></tr> <tr> <td>ST-ON</td><td>1</td></tr> </table> | | VF/ST-ON SEL | VF | 0 | ST-ON | 1 |
| | VF/ST-ON SEL | | | | | | |
| VF | 0 | | | | | | |
| ST-ON | 1 | | | | | | |
| BAND | A switch to determine the area to be used. <table> <tr> <th></th><th>BAND</th></tr> <tr> <td>Europe</td><td>0</td></tr> <tr> <td>U.S.A</td><td>1</td></tr> </table> | | BAND | Europe | 0 | U.S.A | 1 |
| | BAND | | | | | | |
| Europe | 0 | | | | | | |
| U.S.A | 1 | | | | | | |

§ 3. Transistor SW

| Symbol | Function | | | | | | |
|--------|---|--|-----|-------|---|------|---|
| MTL | A switch valid only at TAPE. "MTL" is displayed on LCD by shortcircuiting the switch. | | | | | | |
| REV | A switch valid only at TAPE. REV "◀" is displayed on LCD by shortcircuiting the switch. | | | | | | |
| FOR | A switch valid only at TAPE. FOR "▶" is displayed on LCD by shortcircuiting the switch. | | | | | | |
| R/T | A switch to determine display switching of RADIO and TAPE, status of each I/O port and enabling of momentary switch. 1) When BAND (diode switch) is EUROPE, a) In RADIO All the I/O ports are in normal operation status, the transistor switches (MTL, FOR, REV) on the key matrix are disabled and no display is on LCD. b) In TAPE All the functions in RADIO operate normally but MUTE signal will not be output (even if RADIO KEY is operated). In addition, the transistor switches (MTL, FOR, REV) on the key matrix and switches associated with TAPE are enabled and display is on LCD. When DK signal is input in TAPE, the mode will be forcibly switched to RADIO and displays associated with TAPE will disappear. 2) When BAND (diode switch) is USA, a) In RADIO The following I/O ports are effective at this time: IC pins #2 to 14, 19 to 35, 37 to 38, 40 to 57 and 58 to 64. The keys VF/ST-ON SEL and VF/ST-ON are disabled on the key matrix. b) In TAPE The effective I/O ports are: IC pins #9 to 13, 20 to 26, 35 and 53 to 64. The following keys are effective on the key matrix: POWER ON, VOL-UP, DOWN, LOUD, R/T, MTL, FOR, REV, APC and ⏏. In TAPE, displays on LCD are Running, LOUD, APC, ⏏ and MTL. <table> <tr> <th></th><th>R/T</th></tr> <tr> <td>RADIO</td><td>1</td></tr> <tr> <td>TAPE</td><td>0</td></tr> </table> | | R/T | RADIO | 1 | TAPE | 0 |
| | R/T | | | | | | |
| RADIO | 1 | | | | | | |
| TAPE | 0 | | | | | | |

§ 4. Momentary SW

| Symbol | Function | | | | | | | | | |
|----------------------|--|------------|-------------|---------|----|------|----|-----|-----|-----|
| LOUD | <p>A key for switching loudness ON/OFF. Loudness ON/OFF is switched on each press of this key. The initial status is OFF. In loudness ON, "LOUD" is displayed on LCD. This key is enabled both in RADIO and in TAPE.</p> <table><tr><td>Key status</td><td>Output port</td><td>Display</td></tr><tr><td>ON</td><td>HIGH</td><td>ON</td></tr><tr><td>OFF</td><td>LOW</td><td>OFF</td></tr></table> | Key status | Output port | Display | ON | HIGH | ON | OFF | LOW | OFF |
| Key status | Output port | Display | | | | | | | | |
| ON | HIGH | ON | | | | | | | | |
| OFF | LOW | OFF | | | | | | | | |
| M1 M6 | <p>Keys for preset tuning and writing to preset. UKW/MW/LW can be independently stored for one key and UKW 6CH/SAM 6CH/MW 6CH/LW 6CH, total of 24 stations can be stored in EUROPE BAND. In USA BAND, they are: FM1 6CH/FM2 6CH/MW 6CH, total of 18 stations. When the keys M1 to M6 is pressed, Low level is output from MUTE (Pin #20) and the preset memory standby status is on. When the key is released within 1.5 seconds, the preset tuning is on and the stored frequency corresponding to the key pressed is called. When this is pressed for 1.5 seconds or longer, the current frequency is stored to the preset memory corresponding to the key pressed and MUTE is released. During preset tuning or after memory write, the channel number preset is displayed on LCD. During MUTE output, ST and SK displays disappear.</p> | | | | | | | | | |
| □□ | <p>A switch valid only at TAPE. "□□" is displayed on LCD by shortcircuiting the switch.</p> | | | | | | | | | |
| APC | <p>A switch valid only at TAPE. "APC" is displayed on LCD by shortcircuiting the switch.</p> | | | | | | | | | |
| POWER ON/OFF | <p>A key to turn ON/OFF the power of the set.</p> | | | | | | | | | |
| VOL UP VOL DOWN | <p>Keys to turn UP/DOWN the electronic volume. When the see-saw pulse is also used, the pulse correspondence is enabled and when the pulse volume is used, the see-saw is disabled.</p> <p>I) In pulse correspondence Input of one pulse to VOL-UP causes one step-up operation of the volume control of the output ports VOL0 to VOL4 to the MAX direction. Input of one pulse to VOL-DOWN causes one step-down operation of the volume control to the MIN direction. These keys are enabled when the power is on (normal operation) but they are disabled during auto-tuning.</p> <p>II) In see-saw switch correspondence In case of see-saw switch, when the VOL-UP/DOWN key is ON for 0.5 second or less, the step goes up/down by one and when the key is ON for 0.5 second or longer, the step goes up/down rapidly at the rate of 250ms/step. As in the case of pulse switch, the see-saw switch is enabled when the power is on (normal operation) but it is disabled during auto-tuning. In addition, when both the pulse and the see-saw switches are used, the pulse switch has a priority.</p> | | | | | | | | | |
| SEEK UP SEEK DOWN | <p>Keys for auto-tuning and the stations are sought to the UP/DOWN direction. When the station is found, the frequency is retained.</p> <p>Each step up or down (UKW [50kHz], MW [9kHz], LW [1kHz]) causes SD and IF count detection.</p> <p>When this key is pressed, search is made to the UP or DOWN direction in LOCAL mode for the first cycle, then in DX mode for the second cycle. When no station is found after the second cycle, it is searched for two more cycles and completes SEEK operation. (The operation ends by calling the first frequency.) In addition, when the same key is pressed again during search in LOCAL mode, the frequency returns to the first one and search starts in DX. At this time, the SEEK ends after one cycle from the point of changing to DX and if no station is received, the first frequency is called. At this time, as the frequency changes greatly, like the case in the upper-limit frequency ↔ the lower-limit frequency, WAIT of 250ms ~ 375 ms is established after outputting N-value (division ratio) and before detecting SD. During DX, "DX" is displayed on LCD. On the contrary, in the search mode for traffic information station, when "1" is input to both SD and SK signals, the search stops at the frequency of that station. In normal search, only SD signal input "1" stops the search. When the search stops during DX search, "DX" display disappears and in reception mode, including the case of stopping during LOCAL search, the mode becomes DX forcibly.</p> | | | | | | | | | |

| Symbol | Function | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|--|----------|----------|--------------------|---------------------|--------------------|--------------------|----|--------------------|---|----|---|---|--|--------|--------|-----|---|---|-----|---|---|----|---|---|
| MA (SAM) | <p>When the key is pressed for 2 seconds or longer, the stations are sought automatically and they are stored in M1 to M6. (FM1, FM2 and AM are enabled in USA.)</p> <p>In EUROPE, it is enabled only in UKW and when it is pressed for 2 seconds or longer, the frequencies are stored in M1 to M6 of S.M. (secondary memory) of UKW and when the key is released within 2 seconds, S.M. of UKW is called.</p> <p>(1) Calling</p> <p>When the SAM key is released within 2 seconds, the Secondary Memory (hereinafter called S.M.) is called and "SAM" is displayed on LCD. When the preset key is pressed at that time, the stations stored in S.M. can be called and when the SAM key is pressed and released again within 2 seconds, the frequency returns to the one in the primary memory immediately before pressing the SAM key. The last channel in S.M. is kept.</p> <p>(2) Writing</p> <p>Regardless of SAM mode, when the SAM key is pressed for 2 seconds or longer, "SAM" is displayed on LCD and seek-up operation is started (as in SEEK UP, the first cycle is in LOCAL and the second in DX). When the stations are found, they are stored sequentially from CH1 to CH6 automatically. Auto memory function is turned off after completion of the second cycle. When storing up to CH6 is completed within two cycles, CH1 is called and operation is stopped. When the SAM key is pressed again within two cycles, CH1 is called if even one station is stored until then and the starting frequency is called if no station is stored. When no station is stored after two cycles, the starting frequency is called and operation is stopped. In DX seek (the second cycle), the frequencies stored in LOCAL seek (the first cycle) are skipped.</p> <p>When USA BAND is selected by diode key, the signal becomes AS and it is enabled in FM1, FM2 and AM. The difference between this and SAM is that instead of automatic storage in S.M., the primary memory is over-written. No display is on LCD and the key is disabled even if the key is pressed and released within 2 seconds.</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| M UP M DOWN | <p>A key for UP/DOWN of frequency on each band. Each press causes one step-up or step-down operation of frequency. When the key is pressed for 0.5 second or longer, the fast forward operation is performed with the following time interval until the key is released.</p> <table><tr><td>o U.S.A.</td><td>o EUROPE</td></tr><tr><td>In FM Approx. 20ms</td><td>In UKW Approx. 20ms</td></tr><tr><td>In AM Approx. 70ms</td><td>In MW Approx. 70ms</td></tr><tr><td></td><td>In LW Approx. 70ms</td></tr></table> <p>When the M UP Key is pressed at the upper-limit frequency, the frequency jumps to the lower limit and when the M DOWN Key is pressed at the lower-limit frequency, it jumps to the upper-limit.</p> | o U.S.A. | o EUROPE | In FM Approx. 20ms | In UKW Approx. 20ms | In AM Approx. 70ms | In MW Approx. 70ms | | In LW Approx. 70ms | | | | | | | | | | | | | | | | |
| o U.S.A. | o EUROPE | | | | | | | | | | | | | | | | | | | | | | | | |
| In FM Approx. 20ms | In UKW Approx. 20ms | | | | | | | | | | | | | | | | | | | | | | | | |
| In AM Approx. 70ms | In MW Approx. 70ms | | | | | | | | | | | | | | | | | | | | | | | | |
| | In LW Approx. 70ms | | | | | | | | | | | | | | | | | | | | | | | | |
| VF/ST-ON | <p>When VF is selected by initial diode, this becomes VF key and the traffic information station is searched and received. When no such station is found, SEEK UP operation always continues. When ST-ON is selected, this becomes ST/MONO switching key and ON ↔ OFF is switched in toggling manner.</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| EXM (P.S.S) | <p>When this key is pressed, the stations stored in M1 to M6 are scanned and if any of these stations broadcasts, the scan stops for 5 seconds and starts again after 5 seconds.</p> <p>In EUROPE, 6 stations in UKW, S.M., MW or LW are scanned. In USA, 12 stations in FM1 or FM2, or 6 stations in AM are scanned.</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| BAND | <p>A key to change receiving band.</p> <p>Each press of this key changes a band to be received in the following order.</p> <p>UKW → MW → LW cyclically changed</p> <p>In addition, every time the band is changed, the band change signal changes in the following way.</p> <table><tr><td></td><td>BAND 1</td><td>BAND 2</td></tr><tr><td>UKW</td><td>1</td><td>1</td></tr><tr><td>MW</td><td>0</td><td>1</td></tr><tr><td>LW</td><td>0</td><td>0</td></tr></table> <p>In U.S.A BAND.</p> <table><tr><td></td><td>BAND 1</td><td>BAND 2</td></tr><tr><td>FM1</td><td>0</td><td>1</td></tr><tr><td>FM2</td><td>0</td><td>1</td></tr><tr><td>AM</td><td>0</td><td>0</td></tr></table> | | BAND 1 | BAND 2 | UKW | 1 | 1 | MW | 0 | 1 | LW | 0 | 0 | | BAND 1 | BAND 2 | FM1 | 0 | 1 | FM2 | 0 | 1 | AM | 0 | 0 |
| | BAND 1 | BAND 2 | | | | | | | | | | | | | | | | | | | | | | | |
| UKW | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| MW | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| LW | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| | BAND 1 | BAND 2 | | | | | | | | | | | | | | | | | | | | | | | |
| FM1 | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| FM2 | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| AM | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | |

■PARTS LIST:

◎Electrical section

◎MAIN P.W.B

| REF.NO. | PART NO. | DESCRIPTION | Q'TY | REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---|-------------|---|------|---|-------------|--|------|
| D214 | 001-0162-00 | Diode AW01-30 | 1 | IC203 | 051-0829-04 | IC TD62305AF | 1 |
| D136 | 001-0188-01 | Diode 1S1885A | 1 | IC103 | 051-0840-16 | IC MN1280S | 1 |
| 101~105 111~119 122~124 D127,130,132 202,204 207~213 401 404~406 | 001-0330-00 | Diode 1S119 | 33 | IC404 | 051-0888-00 | IC TA7764P | 1 |
| D407 | 001-0377-30 | Diode MA4051H | 1 | IC401 | 051-0889-00 | IC NR910E | 1 |
| D301 | 001-0377-28 | Diode MA4051L | 1 | IC101 | 051-1155-01 | IC μ PD1719G-584-12 | 1 |
| D135 | 001-0377-32 | Diode MA4056M | 1 | X201 | 060-0067-52 | Ceramic resonator 500Hz | 1 |
| D113 | 001-0377-36 | Diode MA4062H | 1 | CR601 | 060-0115-01 | Ceramic resonator | 1 |
| D131 | 001-0377-39 | Diode MA4068H | 1 | SUP301,302 | 060-0122-10 | Surge protector | 2 |
| D134,137,501 | 001-0379-00 | Diode S5566G | 3 | X101 | 061-1064-00 | Crystal 4.5MHz | 1 |
| D203 | 001-0423-15 | Diode MA4039 | 1 | 101~108 Q112,124,136 202,601 | 100-1048-00 | Transistor 2SA1048 | 13 |
| D126,129,201 | 001-0423-19 | Diode MA4056 | 3 | Q142 | 100-1307-00 | Transistor 2SA1307 | 1 |
| D106~109 | 001-0423-20 | Diode MA4062 | 4 | Q203,212 | 100-1346-00 | Transistor 2SA1346 | 2 |
| D125 | 001-0423-23 | Diode MA4082 | 1 | Q208 | 101-0909-00 | Transistor 2SB909M | 1 |
| D120,121 | 001-0423-24 | Diode MA4091 | 2 | Q110,114,129 Q210 | 101-1237-00 | Transistor 2SB1237 | 4 |
| D403 | 001-0451-00 | Diode DCD015 | 1 | Q140 | 102-1846-00 | Transistor 2SC1846 | 1 |
| D215 | 001-0464-00 | Diode 1GWJ42 | 1 | 123,133,134 Q137~139 Q205,209,211 213,266,501 | 102-2458-00 | Transistor 2SC2458 | 12 |
| TH301 | 002-0200-00 | Thermistor 10k Ω | 1 | 109,111,113 Q115~119 Q126,128,143 301,404,405 | 102-2458-51 | Transistor 2SC2458GR | 14 |
| IFT303,304 | 005-0976-00 | IF-transformer | 2 | Q120,135,204 Q206,207,408 | 102-3400-00 | Transistor 2SC3400 | 6 |
| IFT301,302 | 005-0979-00 | IF-transformer | 2 | Q141,302,303 Q401~403 406,407 | 103-1450-00 | Transistor 2SD1450 | 8 |
| L 302 | 010-2046-02 | Coil | 1 | Q121,122,130 Q131,201,132 | 103-1858-00 | Transistor 2SD1858 | 6 |
| L 301 | 010-2046-17 | Coil 5.6 μ H | 1 | Q125,127 | 108-0161-25 | FET 2SK161 | 2 |
| L 101,201 | 010-2046-33 | Coil 120 μ H | 2 | C314,345 | 160-5612-05 | Ceramic capacitor 560pF B HD | 2 |
| VR301,302 | 012-3808-00 | Variable resistor 330 Ω | 2 | C325 | 160-3322-05 | Ceramic capacitor 3300pF B HD | 1 |
| VR303 | 012-3808-06 | Variable resistor 10k Ω | 1 | C112 | 171-1022-06 | Ceramic capacitor 1000pF SC | 1 |
| VR304 | 012-3808-11 | Variable resistor 220k Ω | 1 | 106,107,113 120,125 C305~307,312 322,324,327 337~339 426 | 171-1032-06 | Ceramic capacitor 0.01 μ F SC | 16 |
| VR601 | 012-4318-06 | Variable resistor 10k Ω | 1 | C304,319,320 C422,423 | 171-1532-06 | Ceramic capacitor 0.015 μ F SC | 5 |
| VR401,402 | 012-4318-09 | Variable resistor 47k Ω | 2 | C104,302,330 C331,335 | 171-2232-06 | Ceramic capacitor 0.022 μ F SC | 5 |
| RY101 | 014-0522-00 | Relay | 1 | C308,332,333 C341 | 171-4722-06 | Ceramic capacitor 4700pF SC | 4 |
| C608 | 042-0249-00 | Electrolytic capacitor 16V0.22 μ F TAN | 1 | C310,343,421 C603 | 171-4732-06 | Ceramic capacitor 0.047 μ F SC | 4 |
| C110 | 042-0358-00 | Electrolytic capacitor 10V1000 μ F | 1 | C410,416 | 171-8222-06 | Ceramic capacitor 8200pF SC | 2 |
| CCT201 | 050-0077-02 | Component circuit 10k Ω x4 | 1 | C124 | 172-1042-20 | Polyester capacitor 0.1 μ F SS | 1 |
| CCT401 | 050-0077-05 | Component circuit | 1 | C610 | 172-2242-20 | Polyester capacitor 0.22 μ F SS | 1 |
| CCT202 | 050-0086-00 | Component circuit 10k Ω x8 | 1 | C406 | 173-2232-10 | Polyester capacitor 0.022 μ F S | 1 |
| CCT601 | 050-0103-00 | Component circuit | 1 | C605 | 173-6831-10 | Polyester capacitor 0.068 μ F S | 1 |
| IC402 | 051-0267-00 | IC TC4066BP | 1 | C407 | 173-6832-10 | Polyester capacitor 0.068 μ F S | 1 |
| IC405 | 051-0267-55 | IC μ PD4066BG | 1 | C309,342,349 | 174-1000-13 | Ceramic capacitor 10pF CH TC | 3 |
| IC406 | 051-0350-55 | IC NJM4558 | 1 | C203,204 | 174-1010-13 | Ceramic capacitor 100pF CH TC | 2 |
| IC201 | 051-0390-05 | IC TD62104F | 1 | C301 | 174-1200-13 | Ceramic capacitor 12pF CH TC | 1 |
| IC602 | 051-0501-00 | IC LA3365 | 1 | C101,102 | 174-2200-13 | Ceramic capacitor 22pF CH TC | 2 |
| IC302 | 051-0541-00 | IC μ PC1266G | 1 | C303 | 174-6090-13 | Ceramic capacitor 6pF CH TC | 1 |
| IC403 | 051-0561-01 | IC AN6263 | 1 | C334,340 | 179-2273-21 | Electrolytic capacitor 10V220 μ F S | 2 |
| IC601 | 051-0739-00 | IC LA2220 | 1 | C123 | 179-3373-33 | Electrolytic capacitor 16V330 μ F S | 1 |
| IC202 | 051-0740-01 | IC TMP42C70N | 1 | C313,344 | 182-1053-62 | Electrolytic capacitor 50V1 μ F SS | 2 |
| IC301,303 | 051-0798-21 | IC TA7411AP | 2 | | | | |
| IC102 | 051-0828-05 | IC TC9174F | 1 | | | | |

| REF.NO. | PART NO. | DESCRIPTION | Q'TY | REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|--|-------------|--|------|-------------------------|-------------|---|------|
| C425 | 182-1056-62 | Electrolytic capacitor 50V1 μ F NP SS | 1 | C615 | 183-1073-12 | Electrolytic capacitor 6.3V100 μ F USS | 1 |
| C317 | 182-1063-32 | Electrolytic capacitor 16V10 μ F SS | 1 | C321,323,401 | 183-2243-62 | Electrolytic capacitor 50V0.22 μ F USS | 3 |
| C415,602 | 182-1073-22 | Electrolytic capacitor 10V100 μ F SS | 2 | C202,205 | 183-2263-12 | Electrolytic capacitor 6.3V22 μ F USS | 2 |
| C315,346 | 182-2253-62 | Electrolytic capacitor 50V2.2 μ F SS | 2 | C121 | 183-2263-32 | Electrolytic capacitor 16V22 μ F USS | 1 |
| C609 | 182-2263-22 | Electrolytic capacitor 10V22 μ F SS | 1 | C105,411,417 601 | 183-3343-62 | Electrolytic capacitor 50V0.33 μ F USS | 4 |
| C614 | 182-4763-22 | Electrolytic capacitor 10V47 μ F SS | 1 | C103 | 183-3353-62 | Electrolytic capacitor 50V3.3 μ F USS | 1 |
| C336 | 183-1043-62 | Electrolytic capacitor 50V0.1 μ F USS | 1 | C607 | 183-4743-62 | Electrolytic capacitor 50V0.47 μ F USS | 1 |
| 111,116,117 118,206,207 C311,316,323 329,347,419 424,611 | 183-1053-62 | Electrolytic capacitor 50V1 μ F USS | 14 | C612 | 183-4753-52 | Electrolytic capacitor 35V4.7 μ F USS | 1 |
| 114,115,119 122,318,326 348,402,403 C404,405,408 409,412,413 414,418,420 604,606,616 | 183-1063-32 | Electrolytic capacitor 16V10 μ F USS | 21 | C427 | 183-4763-12 | Electrolytic capacitor 6.3V47 μ F USS | 1 |
| | | | | C108,109,201 426,613 | 183-6863-22 | Electrolytic capacitor 10V68 μ F USS | 5 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

◎AUDIO P.W.B

| REF.NO. | PART NO. | DESCRIPTION | Q'TY | REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------------------|-------------|---|------|--|-------------|---------------------------------------|------|
| L 102,103 | 009-0642-00 | Choke | 2 | IC501~504 | 051-0735-10 | IC TA8201AK | 4 |
| C503,510,516 522 | 042-0334-15 | Electrolytic capacitor 35V4.7 μ F | 4 | C504,511,517 523 | 160-2222-05 | Ceramic capacitor 2200pF B HD | 4 |
| C505,512,518 524 | 042-0334-30 | Electrolytic capacitor 6.3V47 μ F | 4 | C501,502 | 173-1042-10 | Polyester capacitor 0.1 μ F S | 2 |
| C506,513,519 525 | 042-0373-00 | Electrolytic capacitor 6.3V220 μ F | 4 | 508,509,514 C515,520,521 527,528 | 173-1542-10 | Polyester capacitor 0.15 μ F S | 8 |
| C507,526 | 042-0338-00 | Electrolytic capacitor 16V2200 μ F | 2 | | | | |

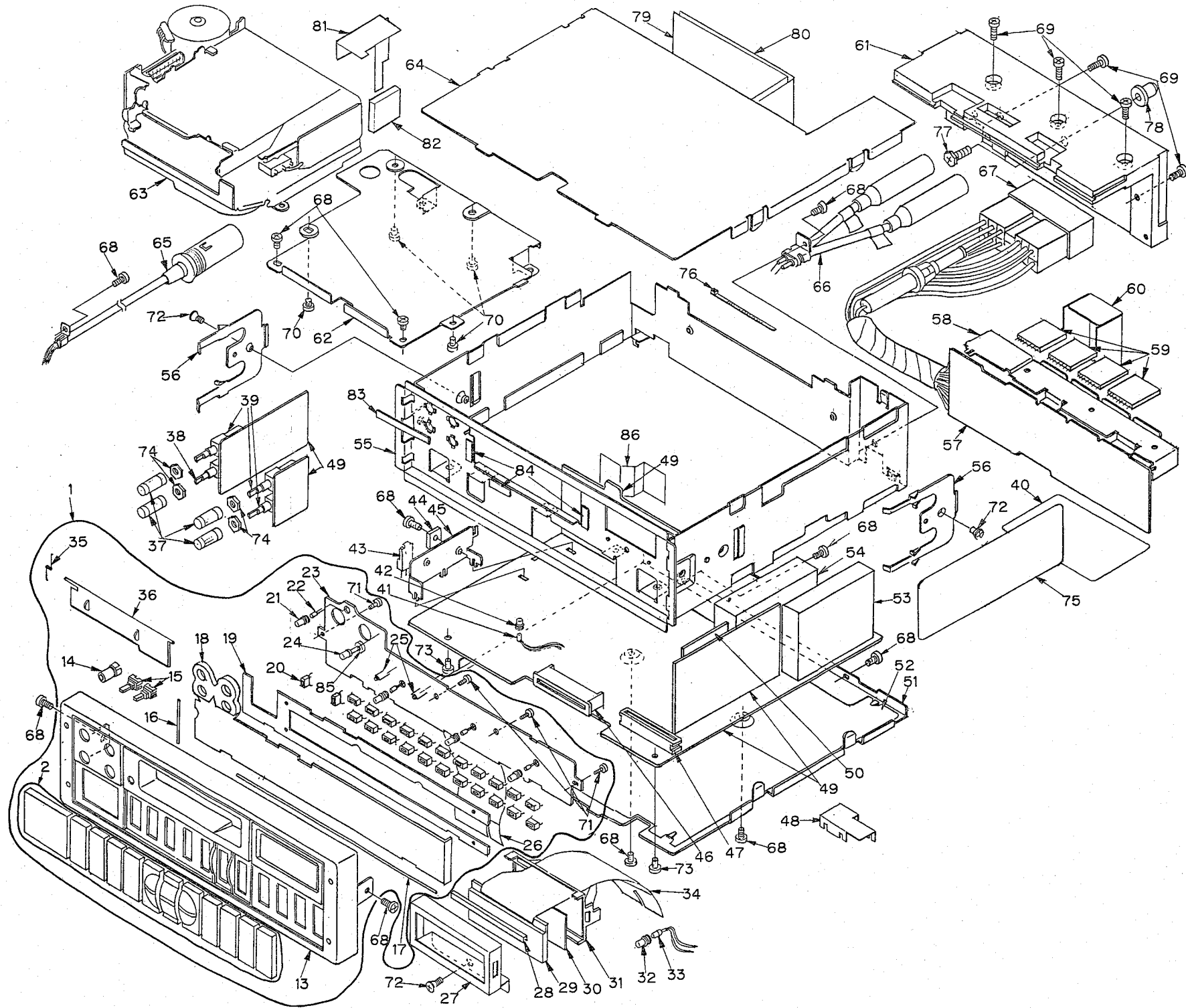
◎TAPE MECHANISM ELECTRICAL PARTS

| REF.NO. | PART NO. | DESCRIPTION | Q'TY | REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|--------------------|------|---------|-------------|---|------|
| D1~4 | 001-0330-00 | Diode 1SS119 | 4 | Q4,5 | 102-3267-50 | Transistor 2SC3267GR,BL | 2 |
| Q1 | 100-1048-00 | Transistor 2SA1048 | 1 | R1 | 114-2291-11 | Film resistor 1W2.2 Ω OM | 1 |
| Q2,3 | 100-1297-00 | Transistor 2SA1297 | 2 | C1 | 182-1073-32 | Electrolytic capacitor 16V100 μ F SS | 1 |

NOTE : OM (Oxidized Metal) SS (Super Small)
S (Small) TC (Temperature-Compensating)
HD (Higher Dielectric) LL (Low Leak)
SC (Semi-Conductor) USS (Ultra Super Small)

EXPLODED VIEW • PARTS LIST:

©Main section PU-9357A-A



| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|--------------------|------|
| 1 | 940-1074A | Escutcheon ass'y | 1 |
| 2 | 947-0183-00 | Button ass'y | 1 |
| 13 | 370-5088-02 | Escutcheon | 1 |
| 14 | 335-2974-00 | LED accessory | 1 |
| 15 | 335-2973-00 | LED accessory | 2 |
| 16 | 612-0171-00 | Shaft | 1 |
| 17 | 612-0170-00 | Shaft | 1 |
| 18 | 335-2975-01 | Illumination plate | 1 |

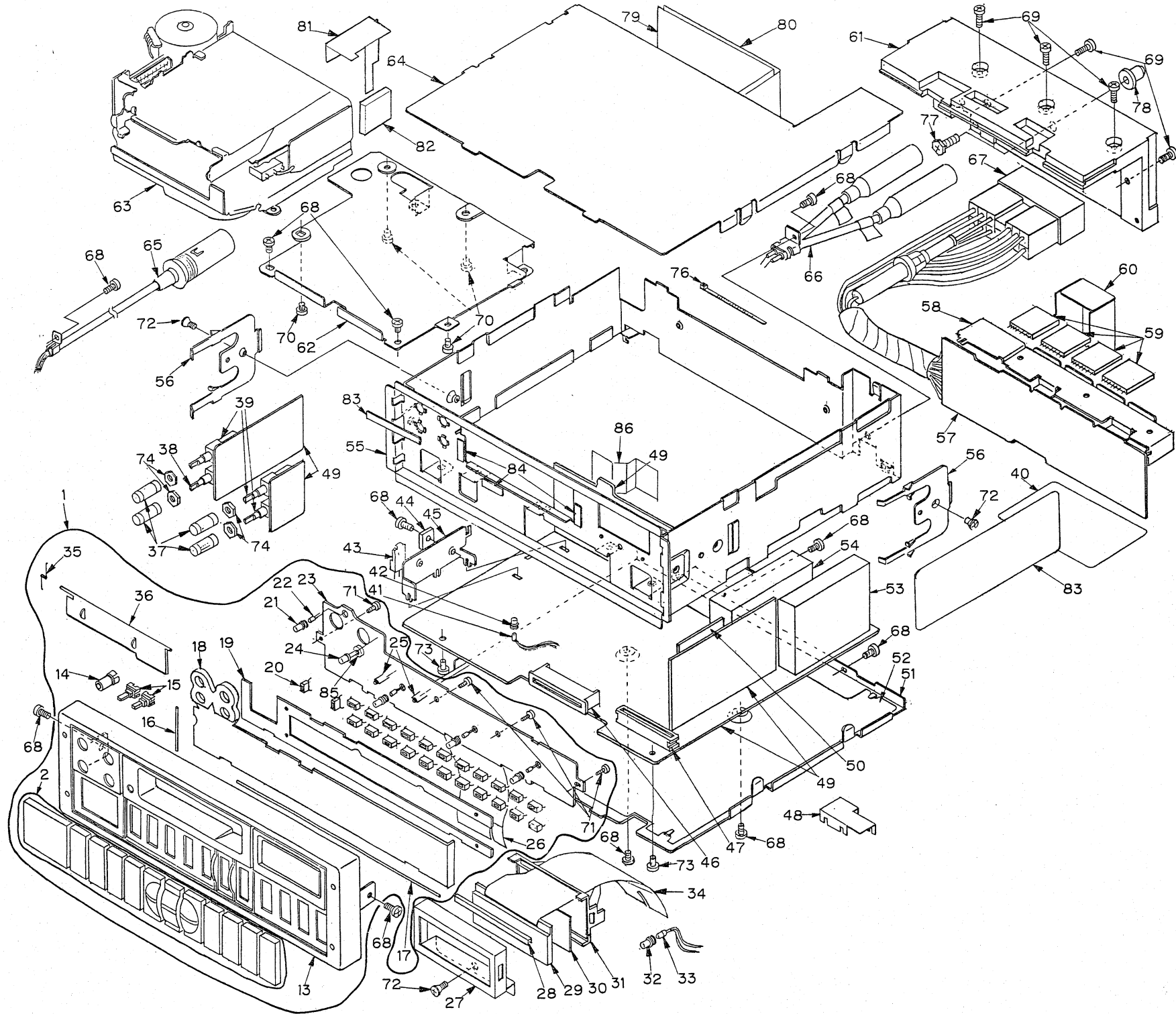
| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|----------------|------|
| 19 | 345-4885-00 | Cushion rubber | 1 |
| 20 | 013-3812-01 | Switch | 24 |
| 21 | 345-3814-29 | Lamp rubber | 4 |
| 22 | 017-0345-09 | Pilot lamp | 4 |
| 23 | 099-8456-00 | P.W.B (SW) | 1 |
| 24 | 001-0369-00 | Diode | 1 |
| 25 | 001-0486-02 | Diode | 2 |
| 26 | 099-8458-01 | FLEXIBLE P.W.B | 1 |

| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|--------------|------|
| 27 | 330-9023-00 | LCD holder | 1 |
| 28 | 321-0961-00 | Clamp | 1 |
| 29 | 379-0230-01 | Indicator | 1 |
| 30 | 335-2977-00 | Color filter | 1 |
| 31 | 335-2976-01 | Reflector | 1 |
| 32 | 345-4157-31 | Lamp rubber | 1 |
| 33 | 017-0346-10 | Pilot lamp | 1 |
| 34 | 816-1997-00 | Heat seal | 1 |

| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|---------------------------|------|
| 35 | 750-2309-01 | Spring | 1 |
| 36 | 320-0391-07 | Dustproof cover | 1 |
| 37 | 380-5037-02 | Knob | 4 |
| 38 | 012-4794-00 | Variable resistor (FADER) | 1 |
| 39 | 012-4793-00 | Variable resistor | 3 |
| 40 | 286-7246-00 | Set plate | 1 |
| 41 | 017-0345-00 | Pilot lamp | 1 |
| 42 | 345-3887-11 | Lamp rubber | 1 |
| 43 | 100-1307-00 | Transistor (2SA1307) | 1 |
| 44 | 102-1846-00 | Transistor (2SC1846) | 1 |
| 45 | 330-9025-01 | TR support | 1 |
| 46 | 074-0731-22 | Outlet socket (22P) | 1 |
| 47 | 074-0847-28 | Outlet socket (28P) | 1 |
| 48 | 347-2791-00 | P.W.B holder | 1 |
| 49 | 099-8455-01 | P.W.B (MAIN) | 1 |
| 50 | 880-0304A | NC/MPX block | 1 |
| 51 | 304-0410-01 | Lower cover | 1 |
| 52 | 347-2792-01 | Insulator | 1 |
| 53 | 880-1408A | FM tuner pack | 1 |
| 54 | 941-0159-02 | AM tuner pack | 1 |
| 55 | 312-0313-00 | Chassis | 1 |
| 56 | 750-2649-00 | Spring | 2 |
| 57 | 099-8457-00 | P.W.B (AUDIO) | 1 |
| 58 | 330-9021-00 | IC holder | 1 |
| 59 | 051-0735-10 | IC (TA8201AK) | 4 |
| 60 | 330-9024-00 | Shield case | 1 |
| 61 | 313-1354-00 | Heat sink | 1 |
| 62 | 330-9022-01 | Mechanism holder | 1 |
| 63 | 930-0530-20 | Tape mechanism | 1 |
| 64 | 303-0364-00 | Upper cover | 1 |
| 65 | 854-0836-00 | Extension lead | 1 |
| 66 | 092-0631-00 | Antenna receptacle | 1 |
| 67 | 854-0812-02 | Extension lead | 1 |
| 68 | 714-3005-81 | Machine screw (M3x5) | 11 |
| 69 | 714-3010-81 | Machine screw (M3x10) | 5 |
| 70 | 714-3003-81 | Machine screw (M3x3) | 4 |
| 71 | 716-0778-00 | Wave screw | 4 |
| 72 | 731-3006-40 | Tap tight (M3x6) | 3 |
| 73 | 731-3006-80 | Tap tight (M3x6) | 2 |
| 74 | 722-0332-00 | Nut | 4 |
| 75 | 347-1597-00 | Label | 1 |
| 76 | 335-0833-01 | Lead clamp | 1 |
| 77 | 710-5025-31 | Hexagon bolt | 1 |
| 78 | 345-4847-00 | Cap | 1 |
| 79 | 330-9069-01 | Shield plate | 1 |
| 80 | 347-2842-00 | Insulator | 1 |
| 81 | 347-2843-00 | Insulator | 1 |
| 82 | 345-4138-00 | Spacer | 1 |
| 83 | 345-4981-00 | Cushion rubber | 1 |
| 84 | 345-4982-00 | Cushion rubber | 3 |
| 85 | 345-4983-00 | Cushion rubber | 1 |
| 86 | 347-2910-00 | Insulator | 1 |

EXPLODED VIEW • PARTS LIST:

©Main section PU-9359A-A



| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|--------------------|------|
| 1 | 940-1076A | Escutcheon ass'y | 1 |
| 2 | 947-0184-00 | Button ass'y | 1 |
| 13 | 370-5088-02 | Escutcheon | 1 |
| 14 | 335-2974-00 | LED accessory | 1 |
| 15 | 335-2973-00 | LED accessory | 2 |
| 16 | 612-0171-00 | Shaft | 1 |
| 17 | 612-0170-00 | Shaft | 1 |
| 18 | 335-2975-01 | Illumination plate | 1 |
| 19 | 345-4885-00 | Cushion rubber | 1 |

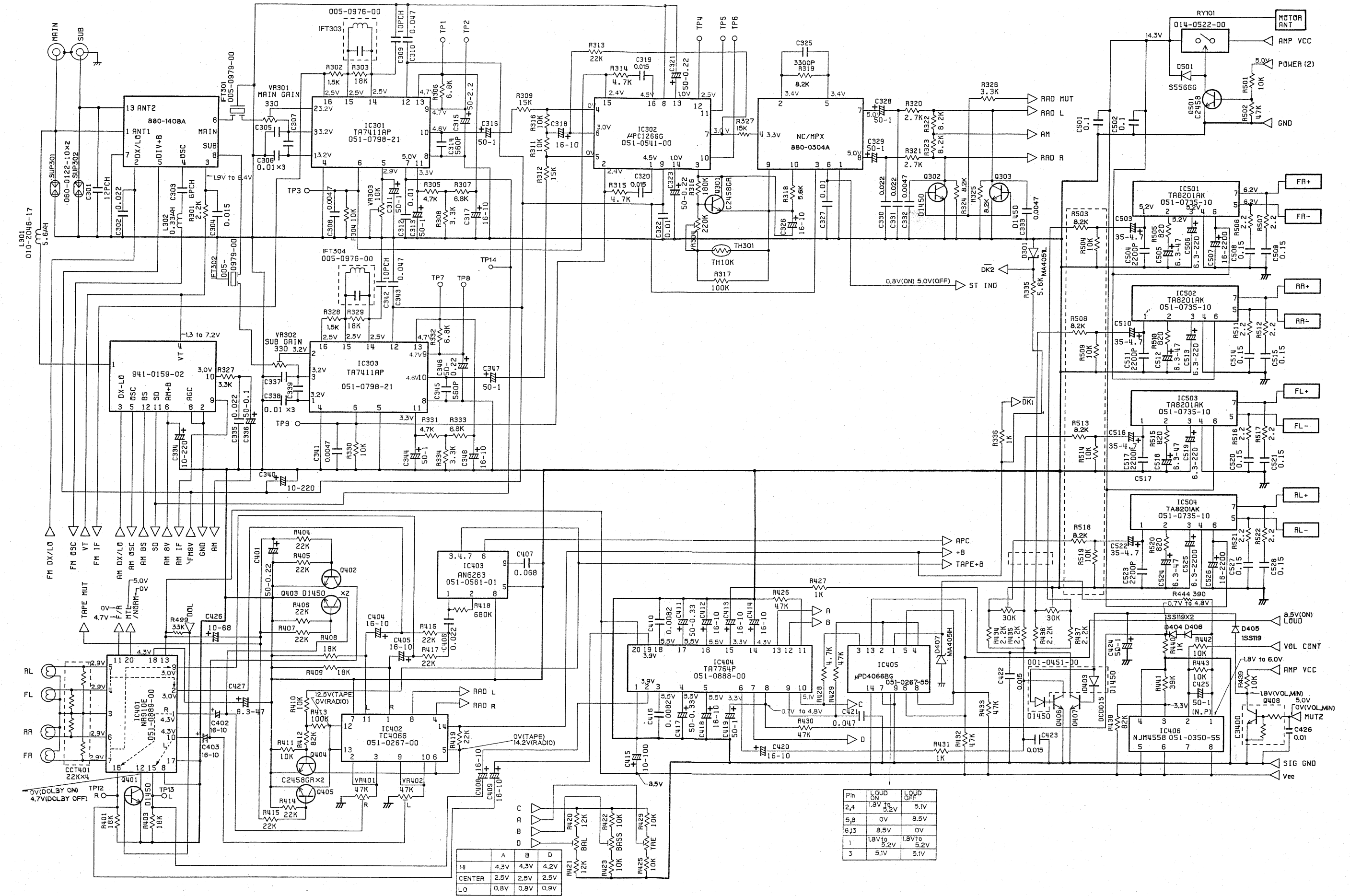
| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|----------------|------|
| 20 | 013-3812-01 | Switch | 24 |
| 21 | 345-3814-29 | Lamp rubber | 4 |
| 22 | 017-0345-09 | Pilot lamp | 4 |
| 23 | 099-8456-00 | P.W.B (SW) | 1 |
| 24 | 001-0369-00 | Diode | 1 |
| 25 | 001-0486-02 | Diode | 2 |
| 26 | 099-8458-01 | FLEXIBLE P.W.B | 1 |
| 27 | 330-9023-00 | LCD holder | 1 |
| 28 | 321-0961-00 | Clamp | 1 |

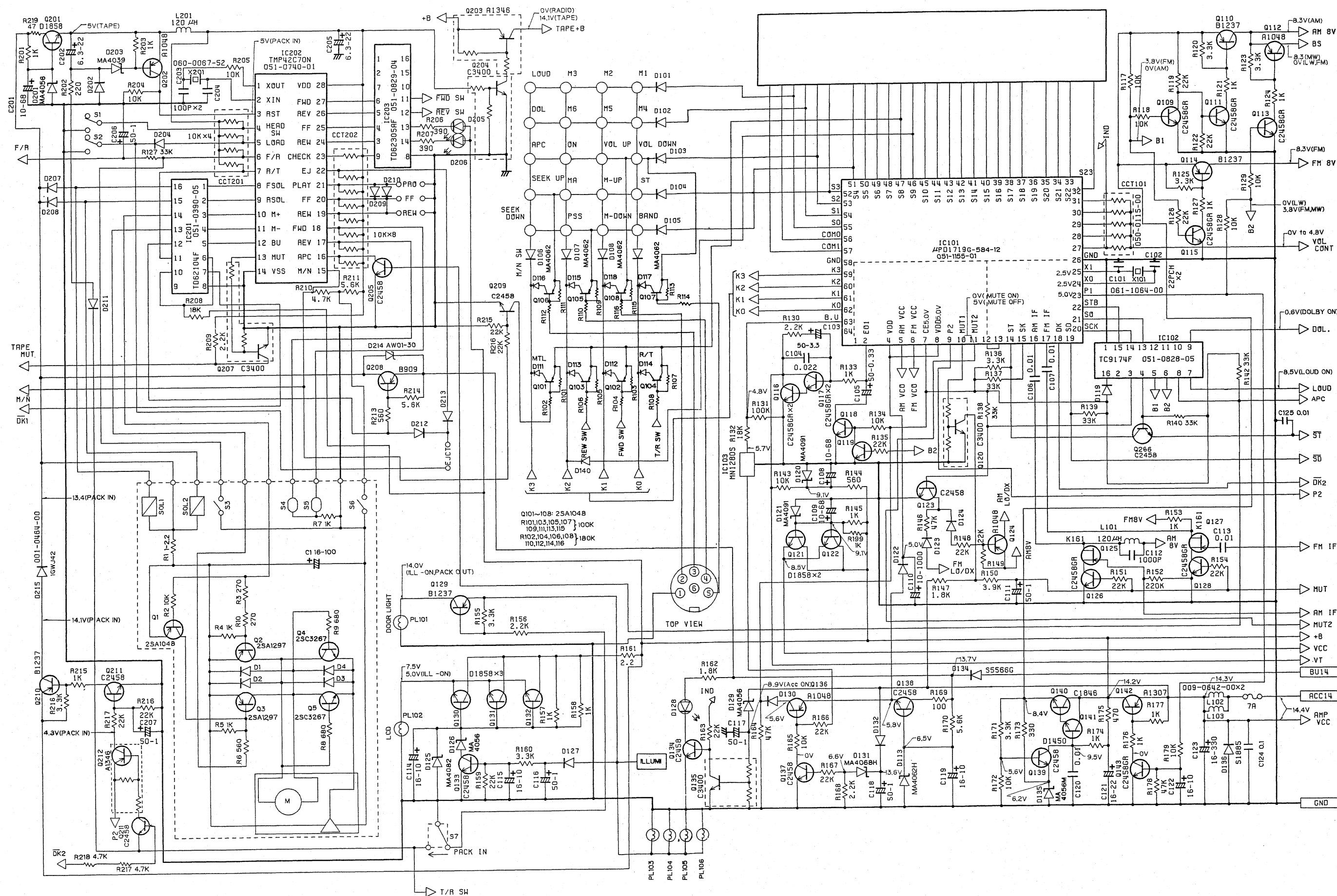
| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|-----------------|------|
| 29 | 379-0230-01 | Indicator | 1 |
| 30 | 335-2977-00 | Color filter | 1 |
| 31 | 335-2976-01 | Reflector | 1 |
| 32 | 345-4157-31 | Lamp rubber | 1 |
| 33 | 017-0346-10 | Pilot lamp | 1 |
| 34 | 816-1997-00 | Heat seal | 1 |
| 35 | 750-2309-01 | Spring | 1 |
| 36 | 320-0391-07 | Dustproof cover | 1 |
| 37 | 380-5037-02 | Knob | 4 |

| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|-----------------------|------|
| 38 | 012-4794-00 | Variable resistor | 1 |
| 39 | 012-4793-00 | Variable resistor | 3 |
| 40 | 286-7132-00 | Set plate | 1 |
| 41 | 017-0345-00 | Pilot lamp | 1 |
| 42 | 345-3887-11 | Lamp rubber | 1 |
| 43 | 100-1307-00 | Transistor (2SA1307) | 1 |
| 44 | 102-1846-00 | Transistor (2SC1846) | 1 |
| 45 | 330-9025-01 | TR support | 1 |
| 46 | 074-0731-22 | Outlet socket (22P) | 1 |
| 47 | 074-0847-28 | Outlet socket (28P) | 1 |
| 48 | 347-2791-00 | P.W.B holder | 1 |
| 49 | 099-8455-01 | P.W.B (MAIN) | 1 |
| 50 | 880-0304A | NC/MPX block | 1 |
| 51 | 304-0410-01 | Lower cover | 1 |
| 52 | 347-2792-01 | Insulator | 1 |
| 53 | 880-1408A | FM tuner pack | 1 |
| 54 | 941-0159-02 | AM tuner pack | 1 |
| 55 | 312-0313-00 | Chassis | 1 |
| 56 | 750-2649-00 | Spring | 2 |
| 57 | 099-8457-00 | P.W.B (AUDIO) | 1 |
| 58 | 330-9021-00 | IC holder | 1 |
| 59 | 051-0735-10 | IC (TA8201AK) | 4 |
| 60 | 330-9024-00 | Shield case | 1 |
| 61 | 313-1354-00 | Heat sink | 1 |
| 62 | 330-9022-01 | Mechanism holder | 1 |
| 63 | 930-0530-20 | Tape mechanism | 1 |
| 64 | 303-0364-00 | Upper cover | 1 |
| 65 | 854-0836-00 | Extension lead | 1 |
| 66 | 092-0631-00 | Antenna receptacle | 1 |
| 67 | 854-0812-02 | Extension lead | 1 |
| 68 | 714-3005-81 | Machine screw (M3x5) | 11 |
| 69 | 714-3010-81 | Machine screw (M3x10) | 5 |
| 70 | 714-3003-81 | Machine screw (M3x3) | 4 |
| 71 | 716-0778-00 | Wave screw | 4 |
| 72 | 731-3006-40 | Tap tight (M3x6) | 3 |
| 73 | 731-3006-80 | Tap tight (M3x6) | 2 |
| 74 | 722-0332-00 | Nut | 4 |
| 75 | 347-1597-00 | Label | 1 |
| 76 | 335-0833-01 | Lead clamp | 1 |
| 77 | 710-5025-31 | Hexagon bolt | 1 |
| 78 | 345-4847-00 | Cap | 1 |
| 79 | 330-9069-01 | Shield plate | 1 |
| 80 | 347-2842-00 | Insulator | 1 |
| 81 | 347-2843-00 | Insulator | 1 |
| 82 | 345-4138-00 | Spacer | 1 |
| 83 | 345-4981-00 | Cushion rubber | 1 |
| 84 | 345-4982-00 | Cushion rubber | 3 |
| 85 | 345-4983-00 | Cushion rubber | 1 |
| 86 | 347-2910-00 | Insulator | 1 |

CIRCUIT DIAGRAM: 1/2

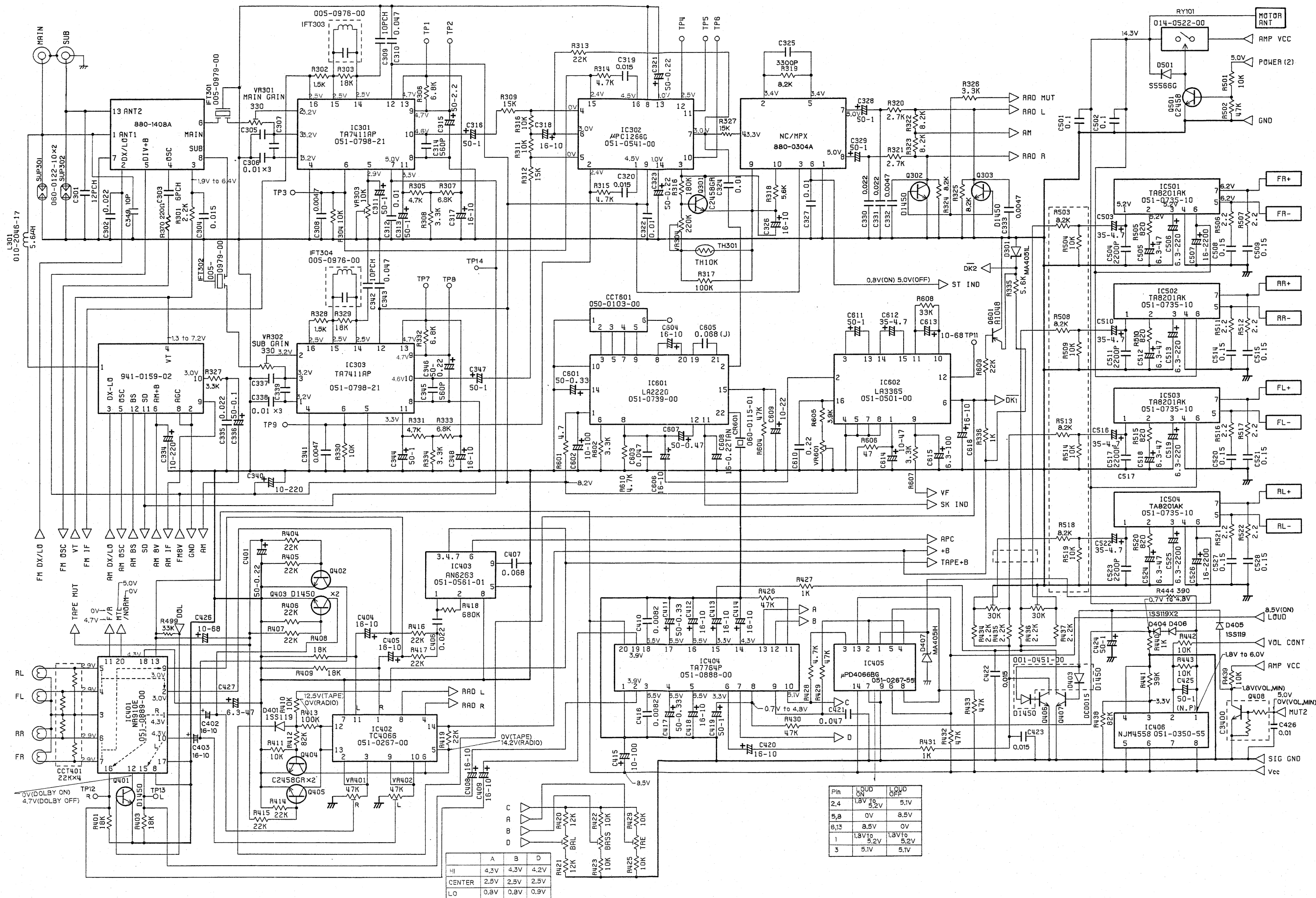
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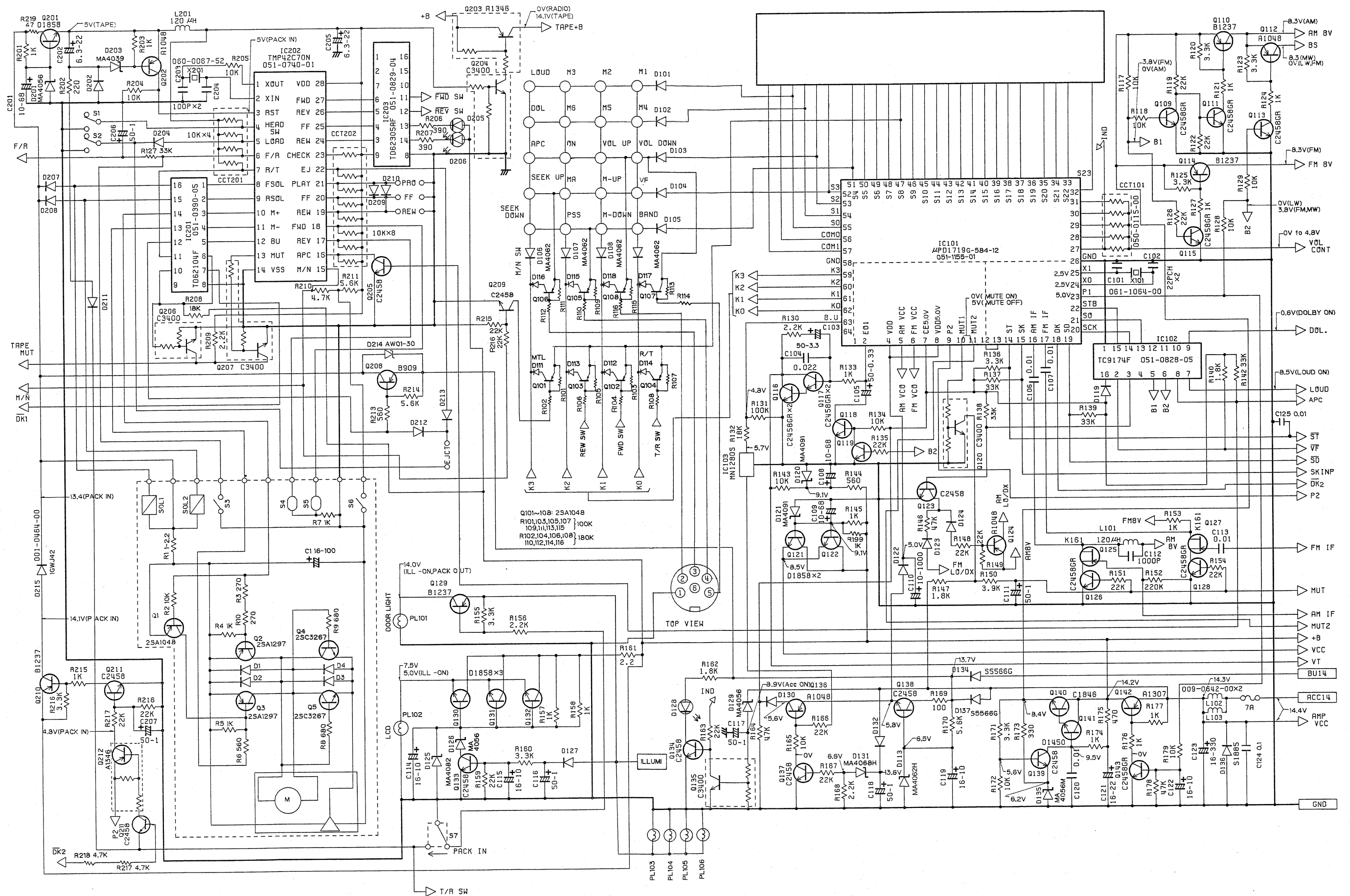
CIRCUIT DIAGRAM: 1/2

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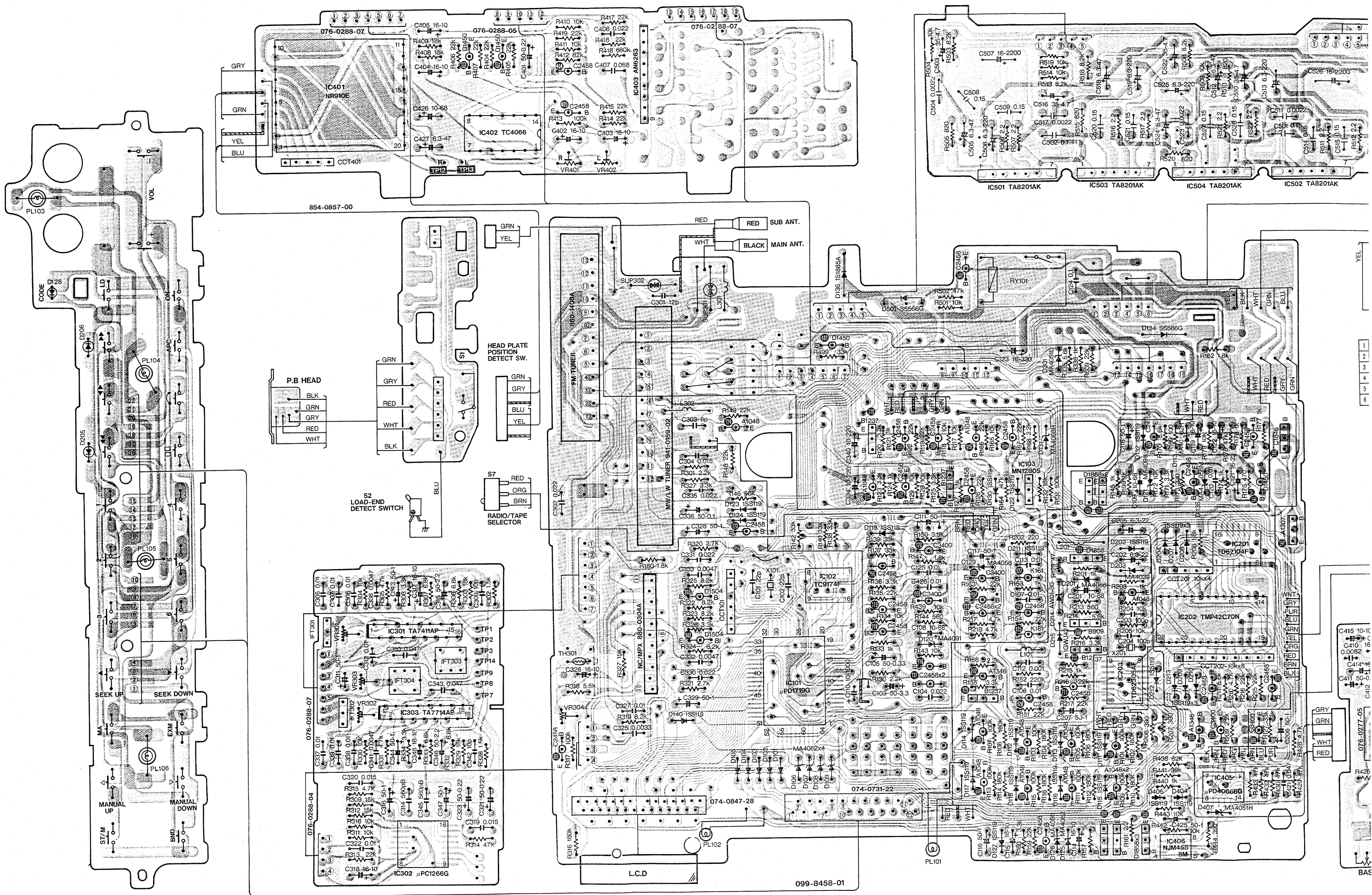
CIRCUIT DIAGRAM: 2/2

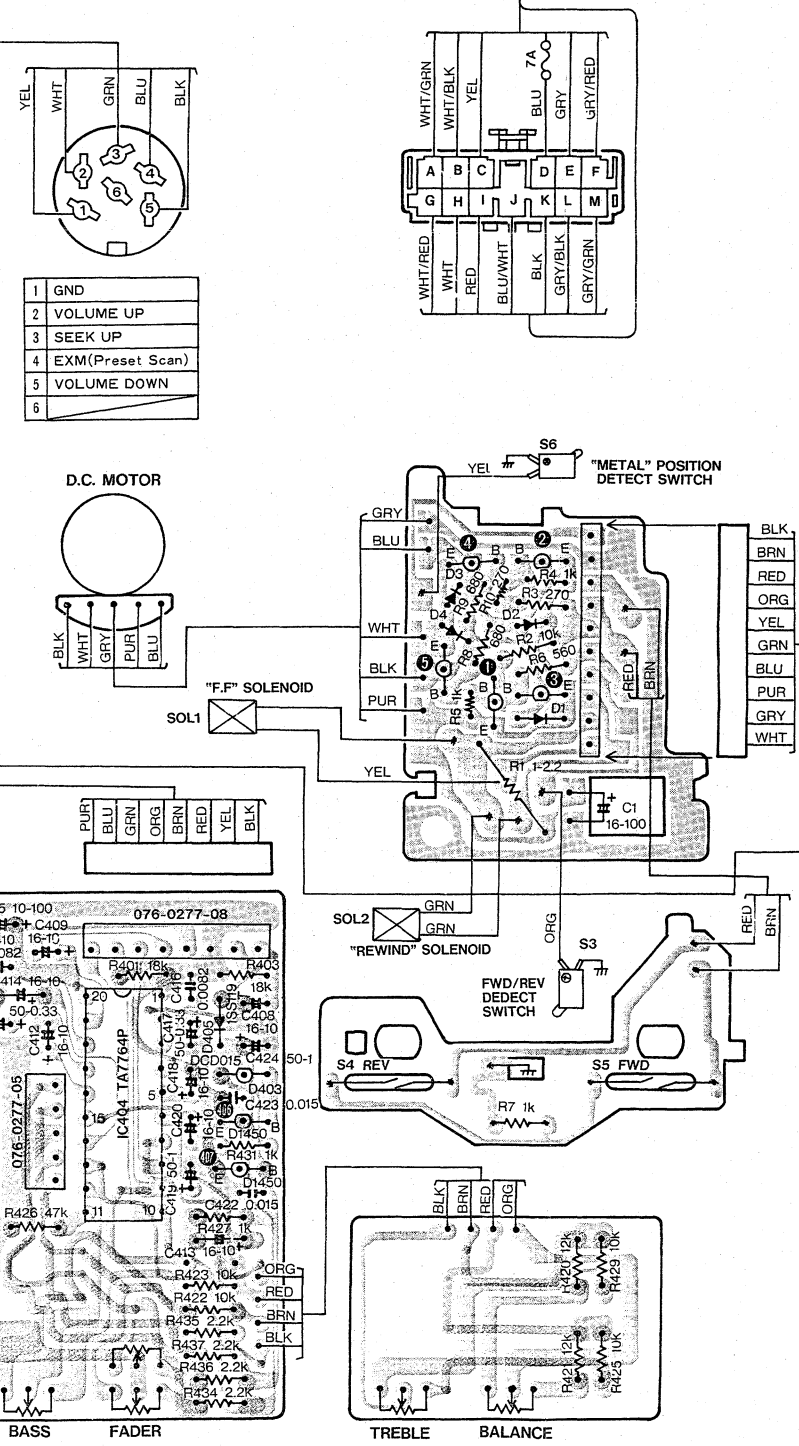
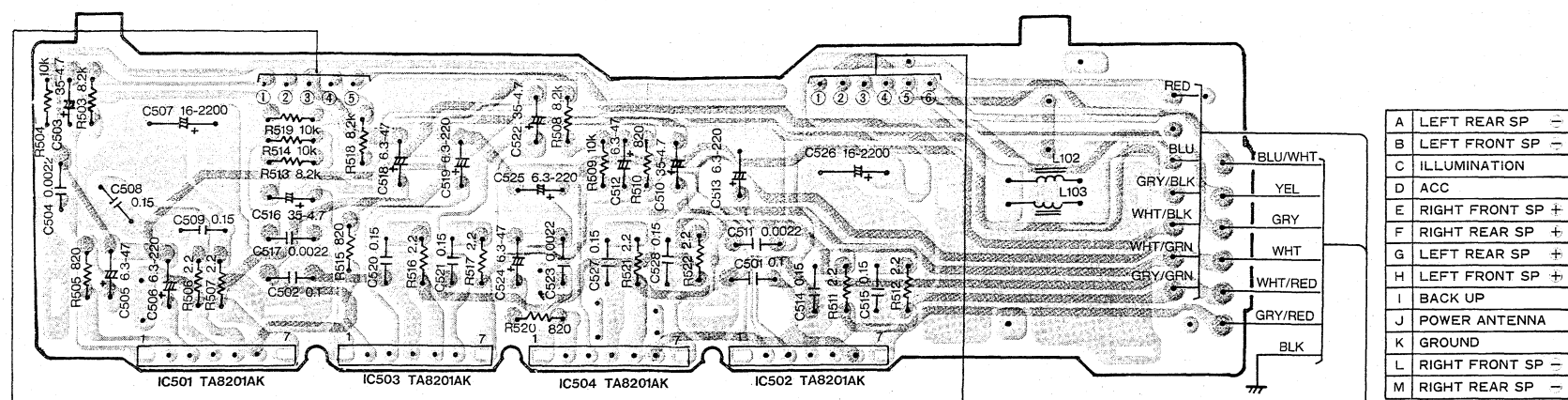
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PRINTED WIRING BOARD:

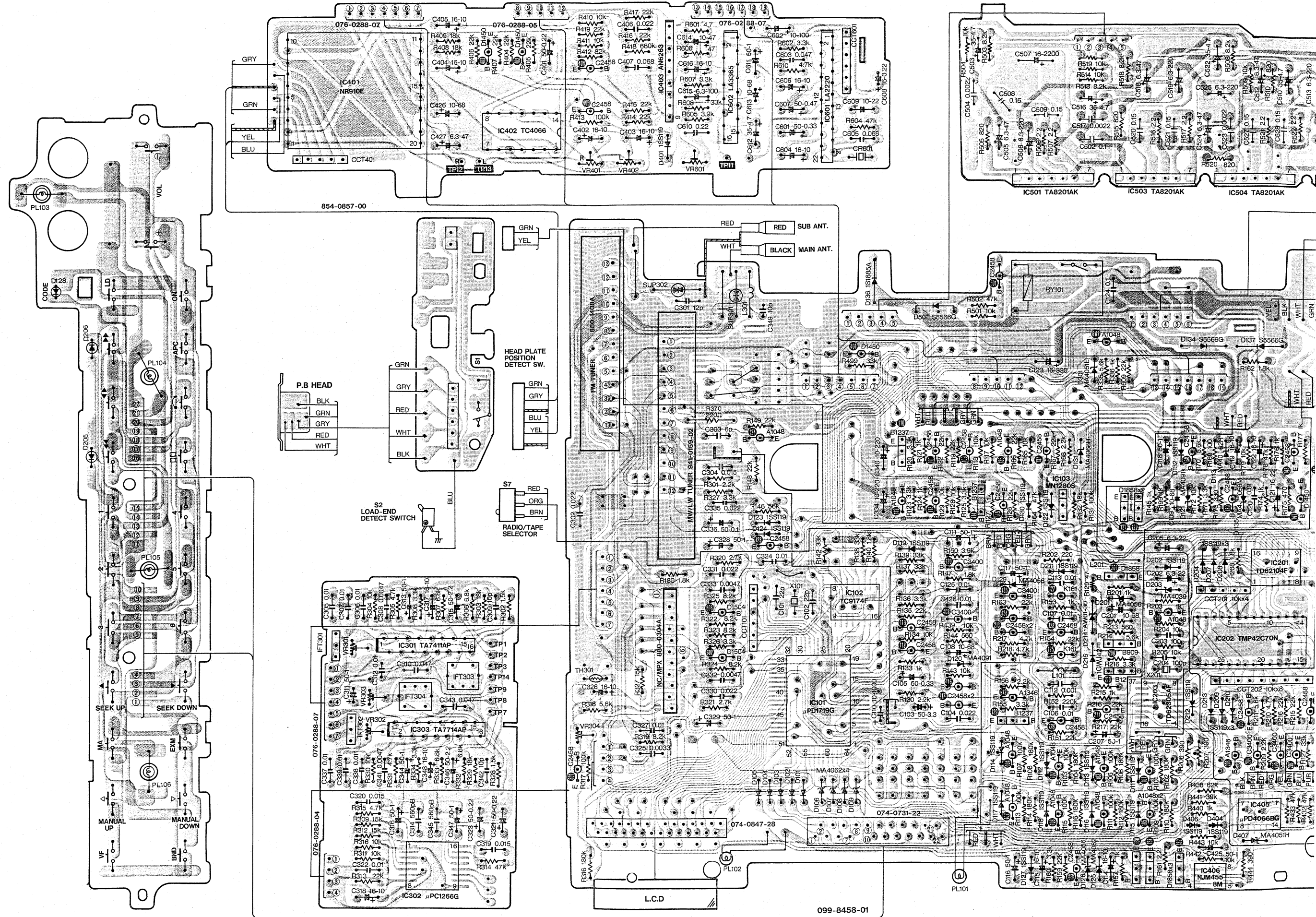
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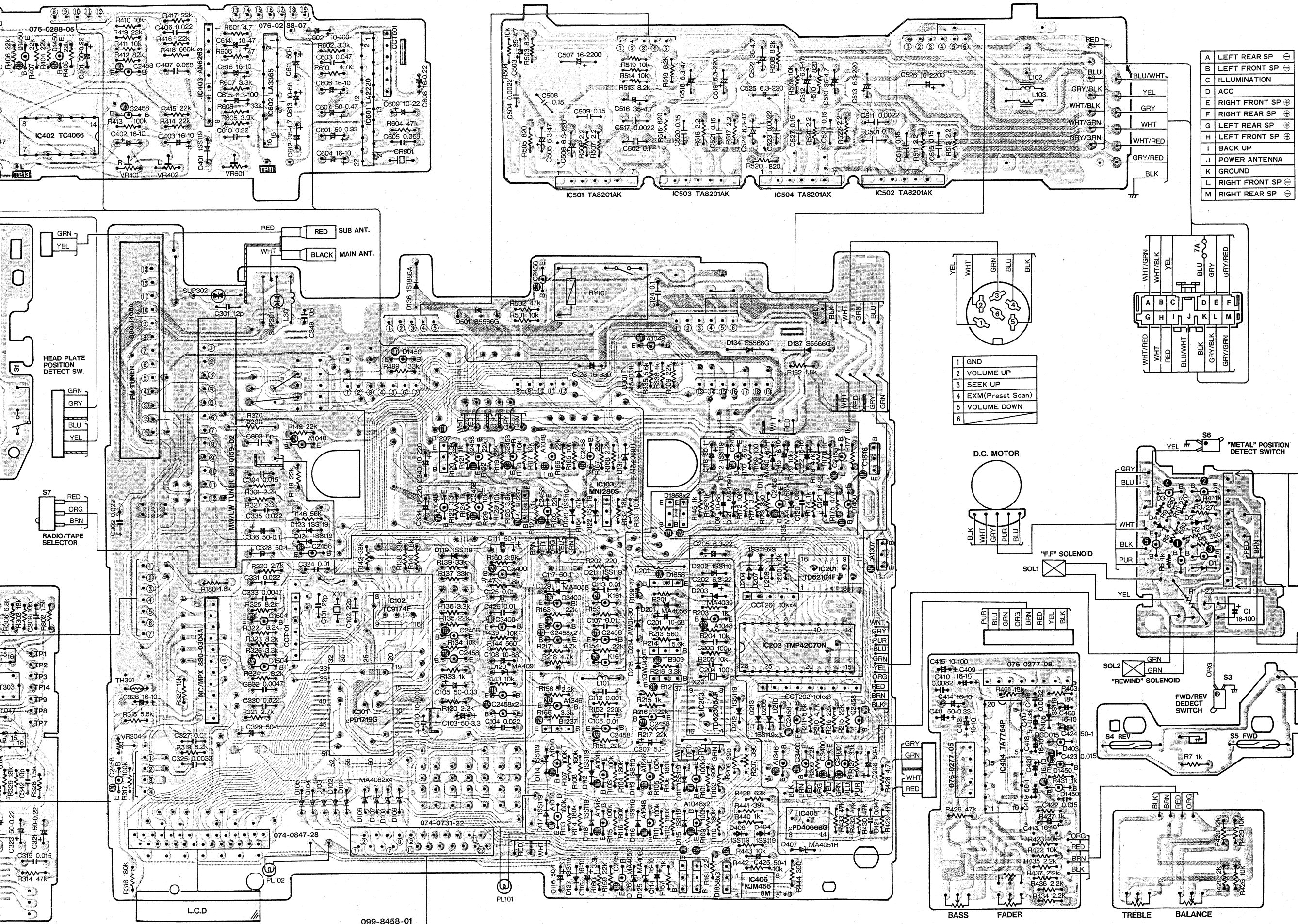




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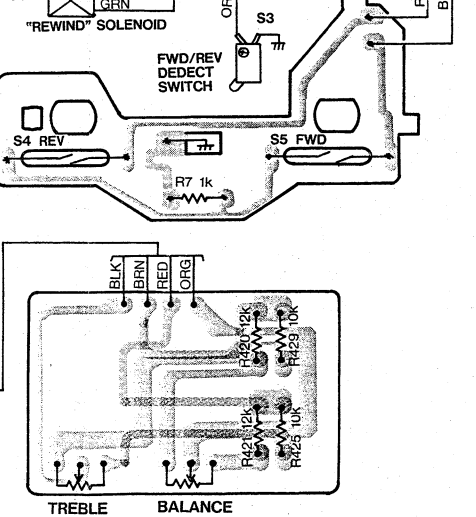
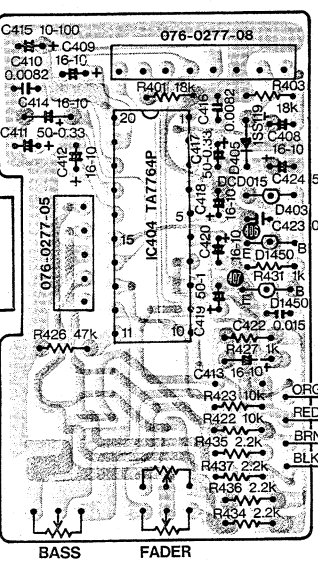
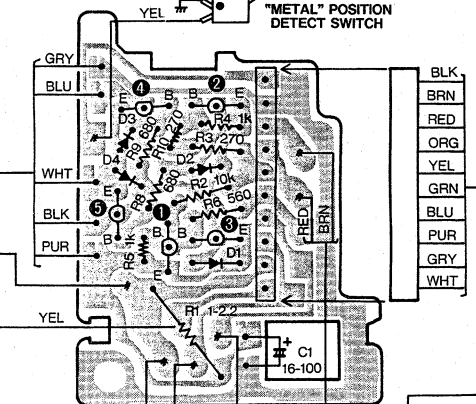
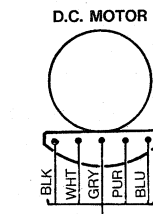
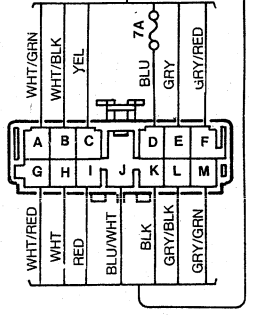
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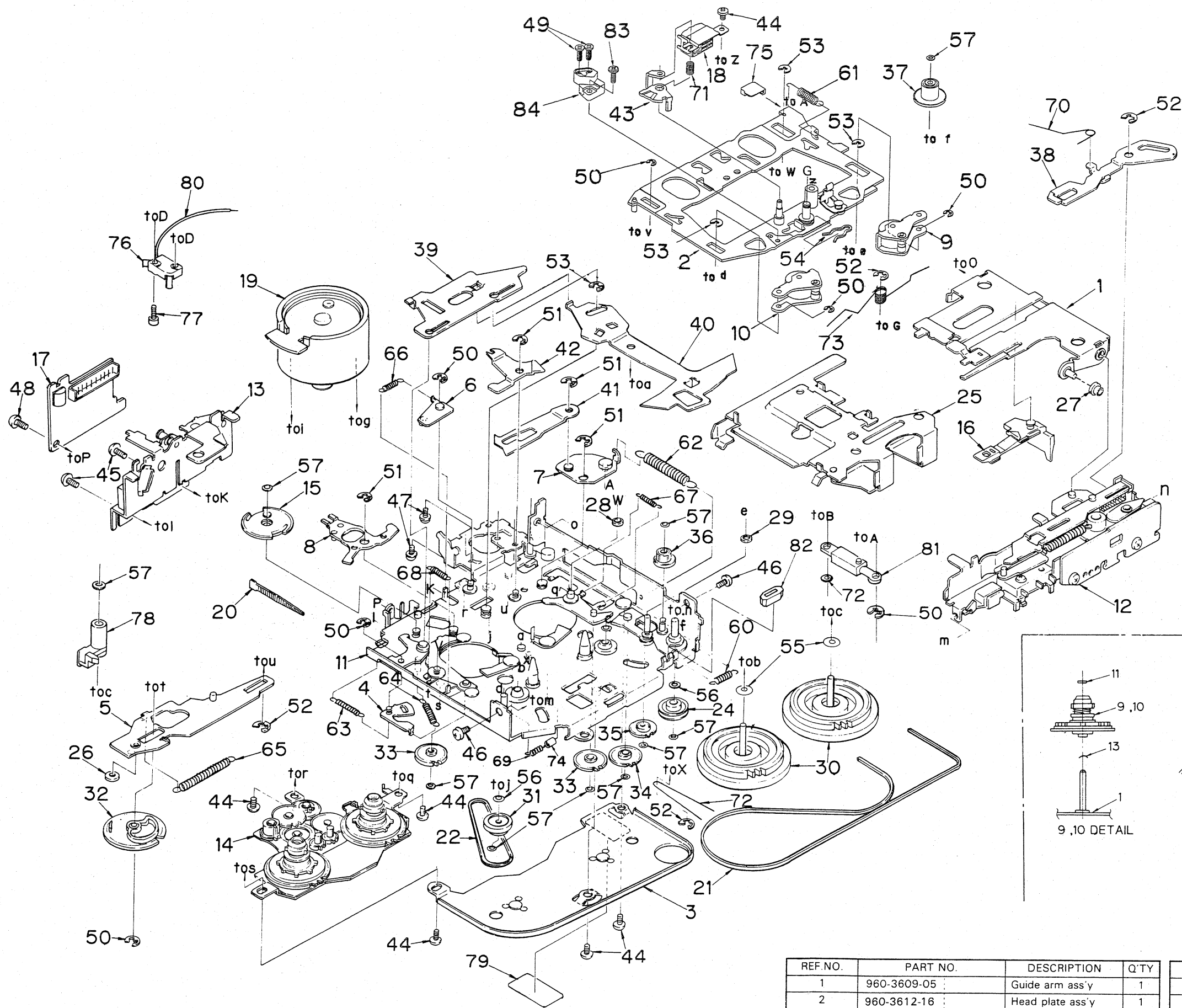
| | | |
|---|----------------|---|
| A | LEFT REAR SP | ⊖ |
| B | LEFT FRONT SP | ⊖ |
| C | ILLUMINATION | |
| D | ACC | |
| E | RIGHT FRONT SP | ⊕ |
| F | RIGHT REAR SP | ⊕ |
| G | LEFT REAR SP | ⊕ |
| H | LEFT FRONT SP | ⊕ |
| I | BACK UP | |
| J | POWER ANTENNA | |
| K | GROUND | |
| L | RIGHT FRONT SP | ⊖ |
| M | RIGHT REAR SP | ⊖ |

| | |
|---|------------------|
| 1 | GND |
| 2 | VOLUME UP |
| 3 | SEEK UP |
| 4 | EXM(Preset Scan) |
| 5 | VOLUME DOWN |



EXPLODED VIEW • PARTS LIST:

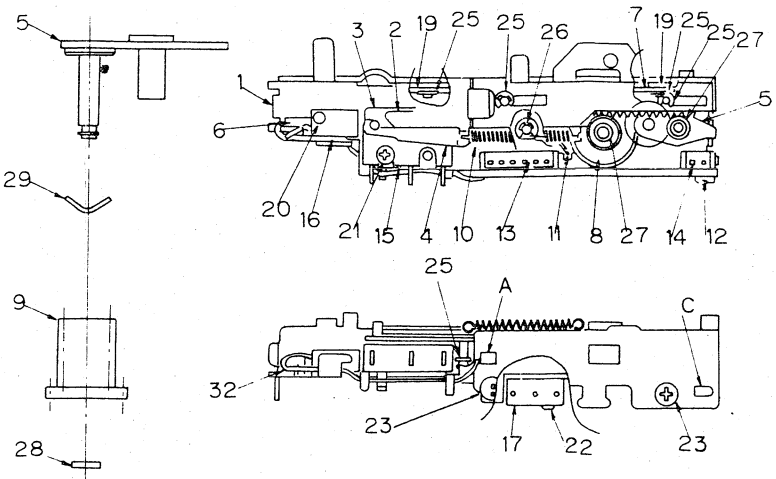
©Tape mechanism section 930-0530-20



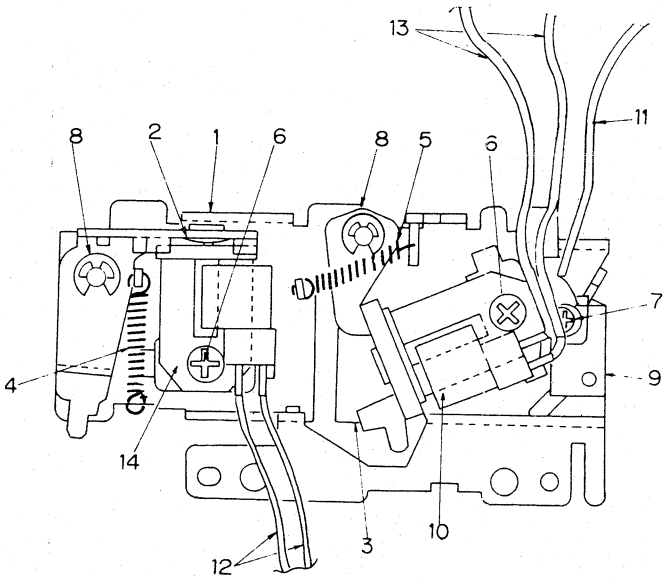
| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|------------------|------|
| 1 | 960-3609-05 | Guide arm ass'y | 1 |
| 2 | 960-3612-16 | Head plate ass'y | 1 |
| 3 | 960-3617-01 | Flywheel-P ass'y | 1 |
| 4 | 960-3626-02 | Timing-P ass'y | 1 |
| 5 | 960-3627-04 | Power-P ass'y | 1 |
| 6 | 960-3628-01 | P-lock-P ass'y | 1 |

| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|---------------------|------|
| 7 | 960-3631-06 | Power link ass'y | 1 |
| 8 | 960-3632-02 | REW-link ass'y | 1 |
| 9 | 960-3738-02 | Roller-F ass'y | 1 |
| 10 | 960-3739-02 | Roller-R ass'y | 1 |
| 11 | 960-3638-17 | Deck plate ass'y | 1 |
| 12 | 960-3639-14 | Frame-sub ass'y 1/2 | 1 |

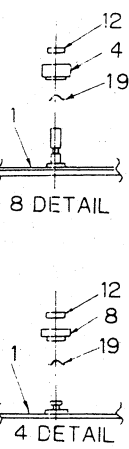
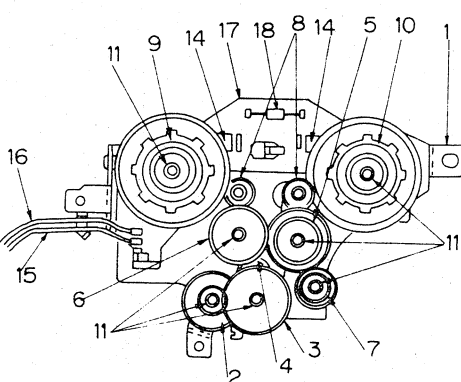
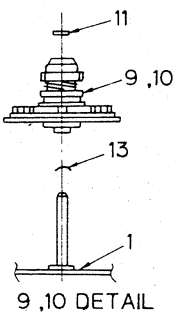
| REF.NO. | PA |
|---------|----------|
| 13 | 960-3640 |
| 14 | 960-3641 |
| 15 | 960-3642 |
| 16 | 960-3643 |
| 17 | 099-7670 |
| 18 | 011-0308 |



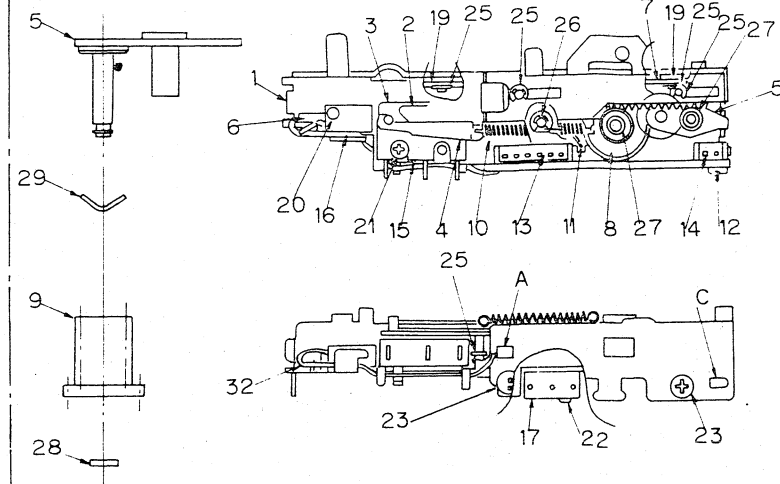
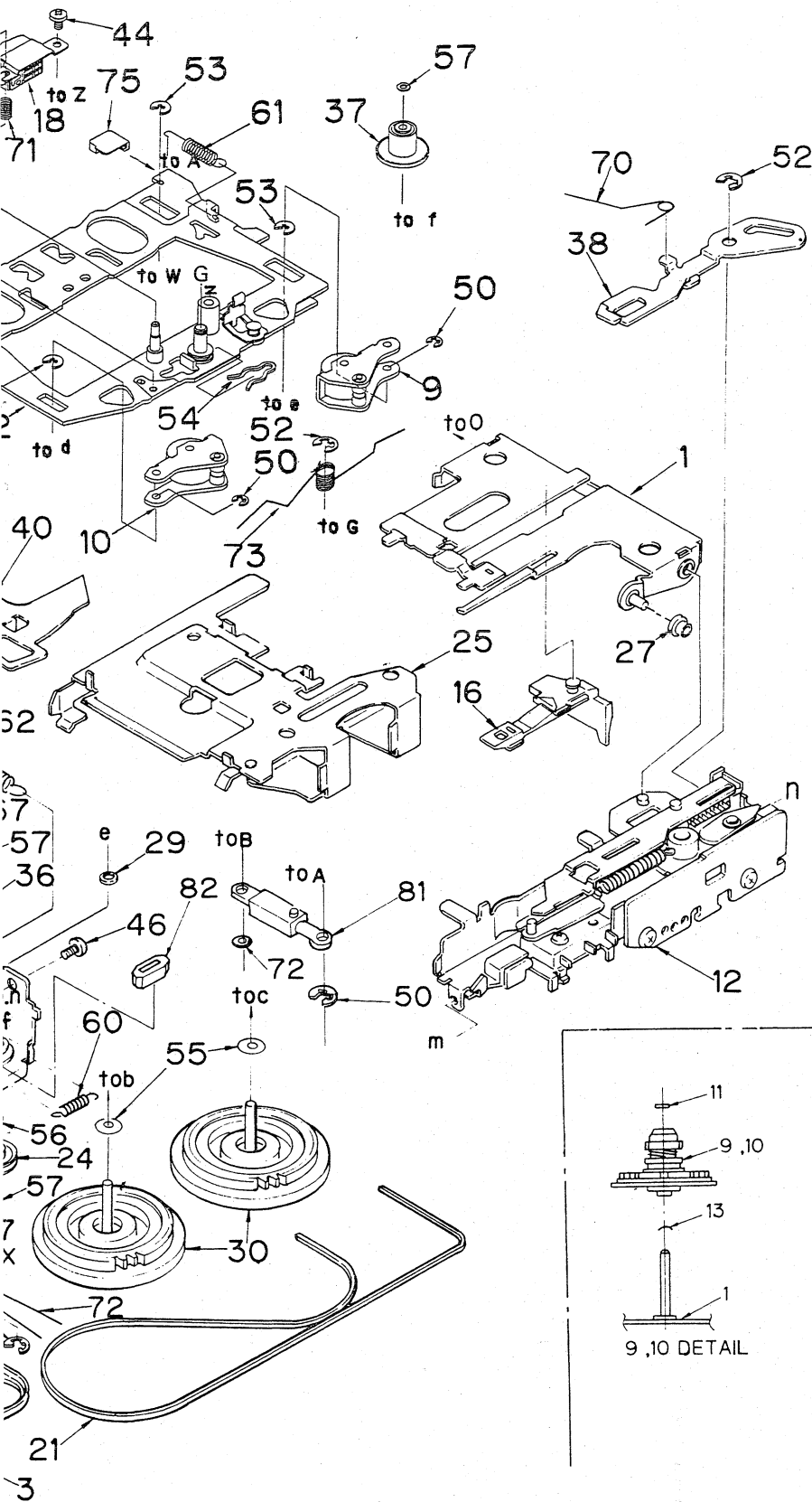
| NO | PA |
|----|-----|
| 1 | 960 |
| 2 | 960 |
| 3 | 630 |
| 4 | 960 |
| 5 | 960 |
| 6 | 820 |
| 7 | 960 |
| 8 | 613 |
| 9 | 613 |
| 10 | 750 |
| 11 | 750 |
| 12 | 099 |
| 13 | 076 |
| 14 | 076 |
| 15 | 013 |
| 16 | 013 |
| 17 | 013 |
| 18 | 806 |
| 19 | 810 |
| 20 | 716 |
| 21 | 714 |
| 22 | 716 |
| 23 | 716 |
| 24 | 743 |
| 25 | 743 |
| 26 | 743 |
| 27 | 746 |
| 28 | 746 |
| 29 | 745 |



| NO | PA |
|----|-----|
| 1 | 960 |
| 2 | 960 |
| 3 | 960 |
| 4 | 750 |
| 5 | 750 |
| 6 | 714 |
| 7 | 716 |
| 8 | 743 |
| 9 | 013 |
| 10 | 015 |
| 11 | 803 |
| 12 | 804 |
| 13 | 805 |
| 14 | 015 |



| NO | PART NO. | DESCRIPTION |
|----|-------------|-------------|
| 1 | 960-3613-05 | REEL B |
| 2 | 613-0061-01 | POWER |
| 3 | 613-0062-00 | POWER |
| 4 | 613-0066-02 | P-IDLE |
| 5 | 613-0063-00 | POWER |
| 6 | 613-0064-01 | POWER |
| 7 | 613-0065-00 | POWER |
| 8 | 613-0069-00 | IDLER |
| 9 | 960-3634-02 | REEL B |
| 10 | 960-3635-02 | REEL B |
| 11 | 746-0761-00 | WASH |
| 12 | 746-0762-00 | WASH |
| 13 | 746-0712-01 | WASH |
| 14 | 013-3707-00 | SWITC |
| 15 | 802-0615-60 | VINYL |
| 16 | 801-0615-60 | VINYL |
| 17 | 099-7216-02 | PWB |
| 18 | 111-1021-51 | FILM |
| 19 | 745-0878-01 | WASH |

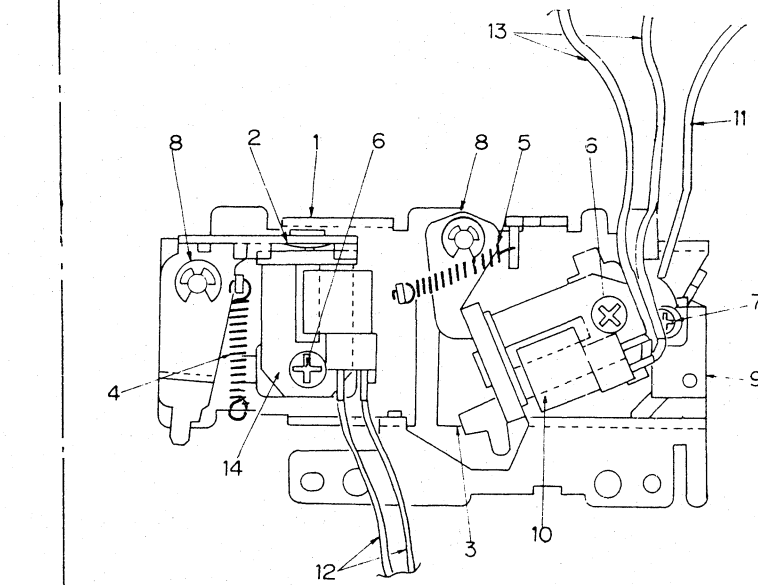


⑫960-3639-14 Frame-sub ass'y

| NO | PART NO. | DESCRIPTION | Q'TY |
|----|-------------|-----------------------|------|
| 1 | 960-3611-10 | FRAME-ASSY | 1 |
| 2 | 960-3619-06 | EJ-ARM-P-ASSY | 1 |
| 3 | 630-1758-06 | EJ-RACK-PLATE | 1 |
| 4 | 960-3621-02 | SW-LINK-ASSY | 1 |
| 5 | 960-3620-06 | SWING-P-ASSY | 1 |
| 6 | 820-3005-02 | VINYL-TUBE | 1 |
| 7 | 960-3618-03 | EJECT-P-ASSY | 1 |
| 8 | 613-0076-02 | EJECT GEAR | 1 |
| 9 | 613-0075-02 | SWING GEAR | 1 |
| 10 | 750-2404-00 | EJ-RACK-SPRING | 1 |
| 11 | 750-2419-01 | EJ-GEAR-SPRING | 1 |
| 12 | 099-7435-03 | P.W.B | 1 |
| 13 | 076-0277-06 | PLUG | 1 |
| 14 | 076-0277-02 | PLUG | 1 |
| 15 | 013-2690-05 | SWITCH | 1 |
| 16 | 013-3757-00 | SWITCH | 1 |
| 17 | 013-3780-00 | SWITCH | 1 |
| 18 | 806-0607-60 | VINYL-COAT-WIRE | 1 |
| 19 | 610-0268-00 | EJECT ROLLER | 2 |
| 20 | 716-0670-00 | SCREW | 1 |
| 21 | 714-2308-11 | MACHINE SCREW(M2.3x8) | 1 |
| 22 | 716-0656-00 | SCREW | 1 |
| 23 | 716-0777-01 | SCREW | 2 |
| 24 | 743-1500-10 | E-RING | 5 |
| 25 | 743-2000-10 | E-RING | 1 |
| 26 | 746-0761-00 | WASHER | 2 |
| 27 | 746-0762-00 | WASHER | 1 |
| 28 | 746-0762-00 | WASHER | 1 |
| 29 | 745-0737-05 | WASHER | 1 |

⑬960-3640-09 Side-P-sub ass'y

| NO | PART NO. | DESCRIPTION | Q'TY |
|----|-------------|-----------------------|------|
| 1 | 960-3610-06 | SIDE PANEL-ASSY | 1 |
| 2 | 960-3623-05 | PL-LINK-A-ASSY | 1 |
| 3 | 960-3624-06 | PL-LINK-B-ASSY | 1 |
| 4 | 750-2408-00 | PL-SPRING-A | 1 |
| 5 | 750-2409-02 | PL-SPRING-B | 1 |
| 6 | 714-2606-11 | MACHINE SCREW(M2.6x6) | 2 |
| 7 | 716-0670-00 | SCREW | 1 |
| 8 | 743-1500-10 | E-RING | 2 |
| 9 | 013-3757-00 | SWITCH | 1 |
| 10 | 013-0232-02 | PLUNGER | 1 |
| 11 | 803-0608-60 | VINYL-COAT-WIRE | 1 |
| 12 | 804-0606-60 | VINYL-COAT-WIRE | 2 |
| 13 | 805-0609-60 | VINYL-COAT-WIRE | 2 |
| 14 | 015-0238-00 | PLUNGER | 1 |



⑭960-3641-07 Reel-B-sub ass'y

| NO | PART NO. | DESCRIPTION | Q'TY |
|----|-------------|--------------------------|------|
| 1 | 960-3613-05 | REELBASE-P-ASSY | 1 |
| 2 | 613-0081-01 | POWER GEAR A | 1 |
| 3 | 613-0082-00 | POWER GEAR B | 1 |
| 4 | 613-0086-02 | P-IDLER GEAR | 1 |
| 5 | 613-0083-00 | POWER GEAR C | 1 |
| 6 | 613-0084-01 | POWER GEAR D | 1 |
| 7 | 613-0085-00 | POWER GEAR E | 1 |
| 8 | 613-0089-00 | IDLER GEAR | 2 |
| 9 | 960-3634-02 | REELBASE-F-ASSY | 1 |
| 10 | 960-3635-02 | REELBASE-R-ASSY | 1 |
| 11 | 746-0761-00 | WASHER | 7 |
| 12 | 746-0762-00 | WASHER | 3 |
| 13 | 746-0712-01 | WASHER | 2 |
| 14 | 013-3707-00 | SWITCH | 2 |
| 15 | 802-0615-60 | VINYL-COAT-WIRE | 1 |
| 16 | 801-0615-60 | VINYL-COAT-WIRE | 1 |
| 17 | 099-7216-02 | P.W.B | 1 |
| 18 | 111-1021-91 | FILM RESISTOR(1/4W5%1KΩ) | 1 |
| 19 | 745-0678-01 | WASHER | 3 |

| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|------------------|------|
| 1 | 960-3609-05 | Guide arm ass'y | 1 |
| 2 | 960-3612-16 | Head plate ass'y | 1 |
| 3 | 960-3617-01 | Flywheel-P ass'y | 1 |
| 4 | 960-3626-02 | Timing-P ass'y | 1 |
| 5 | 960-3627-04 | Power-P ass'y | 1 |
| 6 | 960-3628-01 | P-lock-P ass'y | 1 |

| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|-------------------|------|
| 7 | 960-3631-06 | Power link ass'y | 1 |
| 8 | 960-3632-02 | REW-link ass'y | 1 |
| 9 | 960-3738-02 | Roller-F ass'y | 1 |
| 10 | 960-3739-02 | Roller-R ass'y | 1 |
| 11 | 960-3638-17 | Deck plate ass'y | 1 |
| 12 | 960-3639-14 | Frame-sub ass'y ⑫ | 1 |

| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|--------------------|------|
| 13 | 960-3640-09 | Side-P-sub ass'y ⑬ | 1 |
| 14 | 960-3641-07 | Reel-B-sub ass'y ⑭ | 1 |
| 15 | 960-3642-03 | CH-gear ass'y | 1 |
| 16 | 960-3643-03 | Pack-ST ass'y | 1 |
| 17 | 099-7670-03 | P.W.B | 1 |
| 18 | 011-0308-00 | Head | 1 |

| REF.NO. | PART NO. | DESCRIPTION | Q'TY |
|---------|-------------|------------------------|------|
| 19 | SMA-105-100 | Motor ass'y | 1 |
| 20 | 335-0833-01 | Clamp | 1 |
| 21 | 602-0097-01 | Belt-A | 1 |
| 22 | 602-0098-02 | Belt-B | 1 |
| 23 | 750-2421-00 | Change-A spring | 1 |
| 24 | 604-0033-00 | Tension pulley | 1 |
| 25 | 606-0079-07 | Pack guide | 1 |
| 26 | 610-0266-00 | Cam roller | 1 |
| 27 | 610-0267-00 | Guide roller | 1 |
| 28 | 610-0281-00 | Head-P-roller | 1 |
| 29 | 610-0282-00 | H-P-roller B | 1 |
| 30 | 611-0072-02 | Flywheel | 2 |
| 31 | 613-0060-02 | Pulley gear | 1 |
| 32 | 613-0067-05 | Cam gear | 1 |
| 33 | 613-0070-00 | FF-gear | 2 |
| 34 | 613-0071-00 | Loading gear-A | 1 |
| 35 | 613-0072-00 | Loading gear-B | 1 |
| 36 | 613-0073-00 | Loading gear-C | 1 |
| 37 | 613-0074-01 | Loading gear-D | 1 |
| 38 | 630-1759-03 | Eject arm | 1 |
| 39 | 630-1760-02 | Change plate | 1 |
| 40 | 630-1761-01 | Change arm | 1 |
| 41 | 630-1762-03 | Head lock plate | 1 |
| 42 | 630-1763-01 | FF-link | 1 |
| 43 | 630-2350-02 | Azimuth link | 1 |
| 44 | 714-2003-81 | Machine screw (M2x3) | 6 |
| 45 | 714-2603-81 | Machine screw (M2.6x3) | 2 |
| 46 | 714-2604-81 | Machine screw (M2.6x4) | 2 |
| 47 | 716-0347-00 | Screw (MOTOR) | 2 |
| 48 | 716-0777-00 | Screw (P.W.B) | 1 |
| 49 | 716-0833-01 | Screw (AZIMUTH) | 2 |
| 50 | 743-1500-10 | E-ring (M1.5) | 7 |
| 51 | 743-2000-10 | E-ring (M2) | 4 |
| 52 | 743-2500-10 | E-ring (M2.5) | 4 |
| 53 | 744-0031-10 | E-ring | 4 |
| 54 | 744-0028-00 | Snap retainer | 1 |
| 55 | 745-0646-00 | Washer (FLYWHEEL) | 2 |
| 56 | 746-0624-00 | Washer | 2 |
| 57 | 746-0761-00 | Washer | 10 |
| 60 | 750-2405-02 | Loading spring | 1 |
| 61 | 750-2406-03 | Head-P-spring | 1 |
| 62 | 750-2407-03 | P-link spring | 1 |
| 63 | 750-2410-00 | G-lock spring | 1 |
| 64 | 750-2411-00 | Timing spring | 1 |
| 65 | 750-2412-00 | Power-P-spring | 1 |
| 66 | 750-2413-00 | P-lock spring | 1 |
| 67 | 750-2414-02 | FF-spring | 1 |
| 68 | 750-2415-01 | REW-spring | 1 |
| 69 | 750-2416-01 | Brake spring | 1 |
| 70 | 750-2418-02 | EJ-arm spring-B | 1 |
| 71 | 750-2721-01 | Azimuth spring | 1 |
| 72 | 746-0762-00 | Washer | 1 |
| 73 | 750-2422-03 | Roller spring | 1 |
| 74 | 820-4006-02 | Vinyl tube | 1 |
| 75 | 631-0540-00 | Stopper B | 1 |
| 76 | 013-3757-00 | Switch | 1 |
| 77 | 716-0670-00 | Screw | 1 |
| 78 | 631-0528-01 | Sensor link | 1 |
| 79 | 290-4065-01 | Care label | 1 |
| 80 | 804-0608-60 | Vinyl coat | 1 |
| 81 | 960-3824-00 | Dumper ass'y | 1 |
| 82 | 631-0539-01 | Stopper A | 1 |
| 83 | 738-2040-17 | Precision screw | 1 |
| 84 | 631-0620-01 | Azimuth base | 1 |